



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

TO: Interested Parties / Applicant

DATE: July 27, 2011

RE: J H Rudolph & Company / 163-30567-00186

FROM: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

Notice of Decision – Approval

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to 326 IAC 2, this approval was effective immediately upon submittal of the application.

If you wish to challenge this decision, IC 4-21.5-3-7 requires that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Suite N 501E, Indianapolis, IN 46204, **within eighteen (18) calendar days from the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

- (1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
- (2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
- (3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

- (1) the name and address of the person making the request;
- (2) the interest of the person making the request;
- (3) identification of any persons represented by the person making the request;
- (4) the reasons, with particularity, for the request;
- (5) the issues, with particularity, proposed for considerations at any hearing; and
- (6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.

Enclosures
FNPER-AM.dot12/3/07



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Mr. Alvin Evans
J H Rudolph & Company, Inc.
PO Box 5226
Evansville, IN 47716

July 27, 2011

Re: 163-30567-00186
Fifth Administrative Amendment to
F163-23182-00186

Dear Mr. Evans:

J.H. Rudolph & Company, Inc. was issued a Federally Enforceable State Operating Permit (FESOP) Renewal No. F163-23182-00186 on January 12, 2007 for a stationary drum-mix asphalt plant, located at 3300 S. Green River Road, Evansville, Indiana. On May 20, 2011, the Office of Air Quality (OAQ) received an application from the source requesting that the permit be updated to indicate the addition of 200 tons of the certified ground asbestos-free shingles to the process and this amount to be used in place of RAP and to add one RAP feed bin to the existing RAP system.

Also, pursuant to 326 IAC 2-7-1(39), starting July 1, 2011, greenhouse gases (GHGs) emissions are subject to regulation at a source with a potential to emit 100,000 tons per year or more of CO₂ equivalent emissions (CO₂e). Therefore, CO₂e emissions have been calculated for this source. Based on the calculations the unlimited potential to emit greenhouse gases from the entire source is less than 100,000 tons of CO₂e per year (see attached detailed calculations) and no changes have been made to the permit.

Therefore, the addition of ground asbestos-free shingles to the process and a feed bin to this source are considered an administrative amendment pursuant to 326 IAC 2-8-10(a). The entire source will continue to limit the criteria pollutants and HAPs to less than major source threshold, rendering the requirements of 326 IAC 2-2 and 326 IAC 2-7 not applicable. (See the following tables for PTE of Proposed Revision and Potential To Emit of the Entire Source after issuance)

The following table reflects the PTE before controls of the proposed revision. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Process/ Emission Unit	PTE of Proposed Revision (tons/year)									
	PM	PM10*	PM2.5	SO ₂	NO _x	VOC	CO	CO ₂ e	Total HAPs	Worst Single HAP
Shingle Storage Piles	0.002	0.001	0.001	0	0	0	0	0	0	0
Shingle Processing and Handling	0.23	0.11	0.02	0	0	0	0	0	0	0
Paved Roads (worst case)	1.46	0.28	0.04	0	0	0	0	0	0	0
Total PTE of Proposed Revision**	1.70	0.39	0.06	0	0	0	0	0	0	0

* Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant". See also the detail calculations in Attached Appendix A.1 and Appendix A.2.

** The PTE of the revision is based on the maximum shingle capacity of 68,400 tons per year.

The table below summarizes the potential to emit of the entire source with updated emissions shown as **bold** values and previous emissions shown as ~~strike through~~ values.

Process/ Emission Unit	Potential To Emit of the Entire Source to accommodate the Proposed Revision (tons/year)									
	PM	PM10*	PM2.5	SO ₂	NOx	VOC	CO	CO ₂ e***	Total HAPs	Worst Single HAP
Ducted Emissions										
Dryer Fuel Combustion (worst case)	106.73 ⁽¹⁾	59.50 ⁽²⁾	59.50 ⁽²⁾	99.89 ⁽²⁾	96.54 ⁽³⁾	23.04 ⁽²⁾	93.60 ⁽²⁾	61,424.94	6.41 ⁽²⁾⁽⁵⁾	6.41 ⁽²⁾⁽⁵⁾ (hydrogen chloride)
Dryer/Mixer (Process)										
Magnetite Drying (Process)	1.50 ⁽¹⁾	1.50 ⁽²⁾	1.50 ⁽²⁾	0	0	0	0	0	0	0
Dryer/Mixer Slag Processing	0	0	0	0.07 ⁽⁶⁾	0	0	0	0	0	0
Hot Oil Heater Fuel Combustion (worst case)	0.02	0.07	0.07	0.01	0.92	0.05	0.77	1,484.90	negl.	negl.
Total Process Emissions	108.25	61.07	61.07	99.97	97.46	23.09	94.37	62,909.84	6.41	6.41 (hydrogen chloride)
Fugitive Emissions										
Asphalt Load-Out, Silo Filling, On-Site Yard ⁽⁴⁾	1.92	1.92	1.92	0	0	19.98	4.70	0	0.42	0.06/0.06 (xylene/formaldehyde)
Material Storage Piles ⁽⁴⁾	0.46	0.16	0.16	0	0	0	0	0	0	0
Material Conveying and Handling ⁽⁴⁾	31.47	14.89	14.89	0	0	0	0	0	0	0
Material Crushing ⁽⁴⁾ (RAP)	3.55	1.58	1.58	0	0	0	0	0	0	0
Ground shingles processing, handling and storage⁽⁷⁾	0.01	0.001	0.001	0	0	0	0	0	0	0
Paved Roads ⁽⁴⁾	103.81	20.25	20.25	0	0	0	0	0	0	0
Cold Mix Asphalt Production ⁽⁴⁾	0	0	0	0	0	56.62	0	0	NA	NA
Gasoline Fuel Transfer and Dispensing	0	0	0	0	0	negl.	0	0	negl.	negl.
Volatile Organic Liquid Storage Vessels **	0	0	0	0	0	negl.	0	0	negl.	negl.
Total Fugitive Emissions	141.24 141.22	38.804 38.81	38.804 38.81	0	0	76.61	4.70	0	0.42	0.06/0.06 (xylene/formaldehyde)
Total Limited/Controlled Emissions	249.46 ⁽¹⁾ 249.46	99.87 ⁽²⁾ 99.88	99.87 ⁽²⁾ 99.88	99.97 ^{(2),(6)}	97.46 ⁽³⁾	99.70 ⁽²⁾	99.07 ⁽²⁾	62,909.84	6.83 ⁽²⁾⁽⁵⁾	6.41 ⁽²⁾⁽⁵⁾ (hydrogen chloride)
Title V Major Source Thresholds**	NA	100	100	100	100	100	100	100,000	10	10
PSD Major Source Thresholds**	250	250	250	250	250	250	250	100,000	NA	NA

Process/ Emission Unit	Potential To Emit of the Entire Source to accommodate the Proposed Revision (tons/year)									
	PM	PM10*	PM2.5	SO ₂	NO _x	VOC	CO	CO ₂ e***	Total HAPs	Worst Single HAP
negl. = negligible N/A = Not applicable The emissions contained in this table are based upon FESOP No. F163-23182-00186 (formerly plant ID 163-03408) and modified in SPR 163-27958-00186, issued on September 16, 2009 and AA No. 163-29055-00186, issued on May 7, 2010. * Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal ten (10) micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant". ** Fugitive emissions from each of the volatile organic liquid storage tanks were calculated using the EPA Tanks 4.0.9d program and were determined to be negligible. *** The 100,000 CO ₂ e threshold represents the Title V and PSD subject to regulation thresholds for CO ₂ e in order to determine whether a source's emissions are a regulated NSR pollutant under Title V and PSD. (1) Limited PTE based upon existing annual throughput limit and fuel usage limitations to render 326 IAC 2-2 (PSD) not applicable (2) Limited PTE based upon existing annual throughput limit and fuel usage limitations to comply with 326 IAC 2-8 (FESOP). (3) PTE inherently limited by existing annual throughput limit and fuel usage limitations; therefore, no limit is necessary to comply with 326 IAC 2-8 (FESOP). (4) PTE after controls (5) HAP values reflect worst-case chlorine content from the fuel(s) combusted in the 166 MMBtu aggregate dryer burner. (6) Limited PTE based upon annual steel slag characteristics and usage limitations to comply with 326 IAC 2-8 (FESOP). (7) Limited PTE based upon annual usage limitation of certified asbestos-free shingles of 200 tons per year to comply with 326 IAC 2-8 (FESOP)										

The table below summarizes the potential to emit of the entire source after issuance of this revision, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this FESOP permit revision, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

Process/ Emission Unit	Potential To Emit of the Entire Source after issuance (tons/year)									
	PM	PM10*	PM2.5	SO ₂	NO _x	VOC	CO	CO ₂ e***	Total HAPs	Worst Single HAP
Ducted Emissions										
Dryer Fuel Combustion (worst case)	106.73 ⁽¹⁾	59.50 ⁽²⁾	59.50 ⁽²⁾	99.89 ⁽²⁾	96.54 ⁽³⁾	23.04 ⁽²⁾	93.60 ⁽²⁾	61,424.94	6.41 ⁽²⁾⁽⁵⁾	6.41 ⁽²⁾⁽⁵⁾ (hydrogen chloride)
Dryer/Mixer (Process)										
Magnetite Drying (Process)	1.50 ⁽¹⁾	1.50 ⁽²⁾	1.50 ⁽²⁾	0	0	0	0	0	0	0
Dryer/Mixer Slag Processing	0	0	0	0.07 ⁽⁶⁾	0	0	0	0	0	0
Hot Oil Heater Fuel Combustion (worst case)	0.02	0.07	0.07	0.01	0.92	0.05	0.77	1,484.90	negl.	negl.
Total Process Emissions	108.25	61.07	61.07	99.97	97.46	23.09	94.37	62,909.84	6.41	6.41 (hydrogen chloride)
Fugitive Emissions										
Asphalt Load-Out, Silo Filling, On-Site Yard ⁽⁴⁾	1.92	1.92	1.92	0	0	19.98	4.70	0	0.42	0.06/0.06 (xylene/formaldehyde)
Material Storage Piles ⁽⁴⁾	0.46	0.16	0.16	0	0	0	0	0	0	0
Material Conveying and Handling ⁽⁴⁾	31.47	14.89	14.89	0	0	0	0	0	0	0
Material Crushing ⁽⁴⁾ (RAP)	3.55	1.58	1.58	0	0	0	0	0	0	0
Ground shingles processing, handling and storage ⁽⁷⁾	0.01	0.001	0.001	0	0	0	0	0	0	0
Paved Roads ⁽⁴⁾	103.81	20.25	20.25	0	0	0	0	0	0	0
Cold Mix Asphalt Production ⁽⁴⁾	0	0	0	0	0	56.62	0	0	NA	NA

Process/ Emission Unit	Potential To Emit of the Entire Source after issuance (tons/year)									Worst Single HAP
	PM	PM10*	PM2.5	SO ₂	NO _x	VOC	CO	CO ₂ e***	Total HAPs	
Gasoline Fuel Transfer and Dispensing	0	0	0	0	0	negl.	0	0	negl.	negl.
Volatile Organic Liquid Storage Vessels **	0	0	0	0	0	negl.	0	0	negl.	negl.
Total Fugitive Emissions	141.22	38.81	38.81	0	0	76.61	4.70	0	0.42	0.06/0.06 (xylene/formaldehyde)
Total Limited/Controlled Emissions	⁽¹⁾ 249.47	⁽²⁾ 99.88	⁽²⁾ 99.88	99.97^{(2),(6)}	97.46⁽³⁾	99.70⁽²⁾	99.07⁽²⁾	62,909.84	6.83^{(2),(5)}	6.41^{(2),(5)} (hydrogen chloride)
Title V Major Source Thresholds**	NA	100	100	100	100	100	100	100,000	10	10
PSD Major Source Thresholds**	250	250	250	250	250	250	250	100,000	NA	NA

negl. = negligible

N/A = Not applicable

The emissions contained in this table are based upon FESOP No. F163-23182-00186 (formerly plant ID 163-03408) and modified in SPR 163-27958-00186, issued on September 16, 2009 and AA No. 163-29055-00186, issued on May 7, 2010.

* Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal ten (10) micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant".

** Fugitive emissions from each of the volatile organic liquid storage tanks were calculated using the EPA Tanks 4.0.9d program and were determined to be negligible.

*** The 100,000 CO₂e threshold represents the Title V and PSD subject to regulation thresholds for CO₂e in order to determine whether a source's emissions are a regulated NSR pollutant under Title V and PSD.

(1) Limited PTE based upon existing annual throughput limit and fuel usage limitations to render 326 IAC 2-2 (PSD) not applicable

(2) Limited PTE based upon existing annual throughput limit and fuel usage limitations to comply with 326 IAC 2-8 (FESOP).

(3) PTE inherently limited by existing annual throughput limit and fuel usage limitations; therefore, no limit is necessary to comply with 326 IAC 2-8 (FESOP).

(4) PTE after controls

(5) HAP values reflect worst-case chlorine content from the fuel(s) combusted in the 166 MMBtu aggregate dryer burner.

(6) Limited PTE based upon annual steel slag characteristics and usage limitations to comply with 326 IAC 2-8 (FESOP).

(7) PTE based upon annual usage limitation of certified asbestos-free shingles of 200 tons per year to comply with 326 IAC 2-8 (FESOP)

Pursuant to the provisions of 326 IAC 2-8-10, the permit is hereby administratively amended as follows with the deleted language as ~~strikeouts~~ and new language **bolded**

- (1) The description of certified ground asbestos-free shingles has been added to Section A.1 General Information, Section A.2 Emission Units and Pollution Control Equipment Summary and D.1 Section, including adding one RAP feed bin to item (d) and following numbering items have been revised as follows:

A.1 General Information [326 IAC 2-8-3(b)]

The Permittee owns and operates a stationary drum-mix asphalt plant (formerly identified under plant ID 163-03408), with the capability of producing both hot-mix and warm-mix asphalt, and a cold-mix asphalt production operation. This source processes steel slag **and certified ground asbestos-free shingles** in its aggregate mix...

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

This stationary source consists of the following emission units and pollution control devices:

- (a) One (1) six hundred fifty (650) tons per hour aggregate dryer, installed in June 1990, processing steel slag **and certified ground asbestos-free shingles***, in the aggregate mix, with a burner capacity of 116 million British thermal units per hour, and exhausting

through a baghouse at stack SV1. This dryer is fired by natural gas, #2 fuel oil, #4 fuel oil, #4 waste oil, and biodiesel, as available. This unit has the capability of processing both hot-mix and warm-mix asphalt;

[Note: *approved to process certified asbestos-free shingles in 2011 and no grinding of shingles occurs at this source.]

(d) **One (1) RAP feed bin with a maximum holding capacity of 25 tons.**

(d e)

.....

SECTION D.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:

(a) One (1) six hundred fifty (650) tons per hour aggregate dryer, installed in June 1990, processing steel slag **and certified ground asbestos-free shingles***, in the aggregate mix, with a burner capacity of 116 million British thermal units per hour, and exhausting through a baghouse at stack SV1. This dryer is fired by natural gas, #2 fuel oil, #4 fuel oil, #4 waste oil, and biodiesel, as available. This unit has the capability of processing both hot-mix and warm-mix asphalt;

[Note: *approved to process certified asbestos-free shingles in 2011 and no grinding of shingles occurs at this source.]

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

(2) The potential to emit GHGs limitation from the entire source has been added to Section C.2 as follows:

C.2 Overall Source Limit [326 IAC 2-8]

The purpose of this permit is to limit this source's potential to emit to less than major source levels for the purpose of Section 502(a) of the Clean Air Act.

.....

(4) The potential to emit greenhouse gases (GHGs) from the entire source shall be limited to less than one hundred thousand (100,000) tons of CO2 equivalent emissions (CO2e) per twelve (12) consecutive month period.

(3) The certified ground asbestos-free shingles limitation has been added to the conditions D.1.3, D.1.5 and D.1.6 and the record keeping has been added to condition D.1.18 as follows:

D.1.3 PSD Minor Limit [326 IAC 2-2]

-
- (c) **Particulate matter emissions from the shingles handling shall not exceed 0.007 pounds PM per ton of shingles. This will limit the total potential to emit PM from the shingles operation to less than 0.01 tons per year.**

D.1.5 Particulate Matter (PM10 and PM2.5) [326 IAC 2-8-4] [326 IAC 2-2] [326 IAC 2-3]

Pursuant to 326 IAC 2-8-4, the following limits shall apply:

.....

- (c) **PM10 emissions from the shingles handlings shall be limited to 0.003 pounds per ton of shingles. This will limit the total potential to emit PM10 from the shingles operation to less than 0.001 tons per year.**
- (ed) PM2.5 emissions from the aggregate mixing and drying operation shall be limited to 0.083 pounds per ton of asphalt produced. This will limit the total potential to emit PM2.5 from the aggregate dryer and mixer to less than 59.50 tons per year.
- (de) PM2.5 emissions from the magnetite drying operation shall be limited to 0.04 pounds per ton of magnetite. This will limit the total potential to emit PM2.5 from the magnetite drying operation to less than 1.50 tons per year.
- (f) **PM2.5 emissions from the shingles handling shall be limited to 0.0005 pounds per ton of shingles. This will limit the total potential to emit PM2.5 from the shingles operation to less than 0.001 tons per year.**

D.1.6 FESOP Limit [326 IAC 2-8]

Pursuant to 326 IAC 2-8-4, the following limits shall apply:

.....

- (c) **The Permittee shall use only certified asbestos-free shingles.**
- (d) **The maximum asbestos-free shingles usage shall not exceed 200 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.**

D.1.18 Record Keeping Requirements

- (a) To document the compliance status with the slag/**shingles** limitations in condition D.1.4, the Permittee shall maintain monthly records of the information listed in items (1) through (4) below.
 - (1) Calendar dates covered in the compliance determination period;
 - (2) Actual slag/**shingles** slag usage, calendar-month average sulfur content and equivalent sulfur dioxide emission rates for all steel slag used at the source since the last compliance determination period;
 - (3) A certification, signed by the owner or operator, that the records of the slag/**shingles** supplier certifications represent all of the steel slag used during the period; and

- (4) If the **slag/shingles** supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:
- (A) **Slag/shingles** supplier certifications;
 - (B) The name of the **slag/shingles** supplier; and
 - (C) A statement from the **slag/shingles** supplier that certifies the sulfur content of the steel slag **and the shingles contain no asbestos**.

Records that may be used to document the information included in (1) through (4) may include delivery tickets, manufacturer's data, material safety data sheets (MSDS), and other documents necessary to verify the type and amount used.

- (b) To document the compliance status with condition D.1.6, the Permittee shall maintain records in accordance with (1) through (3) below. Records maintained for (1) through (3) shall be taken monthly and shall be complete and sufficient to establish compliance with the annual throughput limits to the aggregate dryer and magnetite drying operation established in Condition D.1.6.
- (1) Calendar dates covered in the compliance determination period;
 - (2) Asphalt mix throughput to the aggregate dryer per month since the last compliance determination period; **and**
 - (3) Magnetite throughput to the magnetite dryer per month since the last compliance determination period; **and**
 - (4) **Ground shingles throughput to the aggregate dryer per month since the last compliance determination period.**
- (3) The FESOP Quarterly Report for certified ground asbestos-free shingles has been added to the permit as follows:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH**

FESOP Quarterly Report

Source Name: J.H. Rudolph & Company Inc.
Source Address: 3300 S. Green River Road, Evansville, IN 47715
Mailing Address: P.O. Box 5226, Evansville, IN 47716
FESOP No.: F163-23182-00186 (formerly plant ID 163-03408)
Facility: Aggregate Dryer
Parameter: Throughput
Limit: The annual throughput of the certified ground shingles added to the mixture process shall be limited to 200 tons of per twelve (12) consecutive month period, with compliance determined at the end of each month.

QUARTER: _____ **MONTH:** _____ **YEAR:** _____

Month	Column 1: Magnetite throughput (tons)	Column 2: Magnetite throughput (tons)	Column 1 + Column 2: Magnetite throughput (tons)
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

- No deviation occurred in this quarter.
- Deviation/s occurred in this quarter.
 Deviation has been reported on: _____

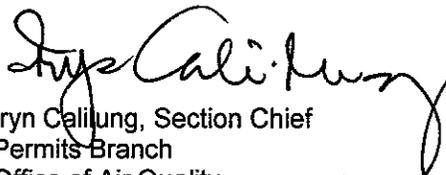
Submitted by: _____
 Title / Position: _____
 Signature: _____
 Date: _____
 Phone: _____

All other conditions of the permit shall remain unchanged and in effect. Attached please find the entire revised permit.

A copy of the permit is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>. For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.idem.in.gov

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter, please contact Ms. Renee Traivaranon, of my staff, at 317-234-5615 or 1-800-451-6027, and ask for extension 4-5615.

Sincerely,


 Iryn Calilung, Section Chief
 Permits Branch
 Office of Air Quality

Attachments: Updated Permit
 Calculations
 Notice of Decision

IC/rt
 cc: File - Vanderburgh County
 Vanderburgh County Health Department
 U.S. EPA, Region V
 Compliance and Enforcement Branch
 Billing, Licensing and Training Section



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

NEW SOURCE REVIEW AND FEDERALLY ENFORCEABLE STATE OPERATING PERMIT RENEWAL INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR QUALITY

J.H. Rudolph & Company, Inc.
3300 S. Green River Road
Evansville, Indiana 47715

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

The Permittee must comply with all conditions of this permit. Noncompliance with any provisions of this permit is grounds for enforcement action; permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. An emergency does constitute an affirmative defense in an enforcement action provided the Permittee complies with the applicable requirements set forth in Section B, Emergency Provisions.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-8 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17. This permit also addresses certain new source review requirements for existing equipment and is intended to fulfill the new source review procedures pursuant to 326 IAC 2-8-11.1, applicable to those conditions

Indiana statutes from IC 13 and rules from 326 IAC, quoted in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain a FESOP under 326 IAC 2-8.

Operation Permit No.: F163-23182-00186 (formerly plant ID 163-03408)	
Original signed by: Nisha Sizemore, Chief Permits Branch Office of Air Quality	Issuance Date: January 12, 2007 Expiration Date: January 12, 2017

First Administrative Amendment No.: F163-26043-00186, Issued February 19, 2008
First Significant Permit Revision No.: F163-27958-00186, Issued September 16, 2009
Second Administrative Amendment No.: F163-28549-00186, Issued November 18, 2009
Third Administrative Amendment No.: F163-29055-00186, Issued May 7, 2010
Fourth Administrative Amendment No.: F163-29299-00186, issued on September, 21 2010

Fifth Administrative Amendment No 163-30567-00186	Pages Affected: Entire permit.
Issued by:  Iryn Calilung, Section Chief Permits Branch Office of Air Quality	Issuance Date: July 27, 2011 Expiration Date: January 12, 2017

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SECTION A

SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-8-3(b)]

The Permittee owns and operates a stationary drum-mix asphalt plant (formerly identified under plant ID 163-03408), with the capability of producing both hot-mix and warm-mix asphalt, and a cold-mix asphalt production operation. This source processes steel slag and certified ground asbestos-free shingles in its aggregate mix.

Source Address:	3300 S. Green River Road, Evansville, Indiana 47715
Mailing Address:	PO Box 5226, Evansville, IN 47716
General Source Phone Number:	(812) 547-1400
SIC Code:	2951 (Asphalt Paving Mixtures and Blocks)
County Location:	Vanderburgh
Source Location Status:	Nonattainment for PM2.5 standard Attainment for all other criteria pollutants
Source Status:	Federally Enforceable State Operating Permit Program Minor Source, under PSD and Emission Offset Rules Minor Source, Section 112 of the Clean Air Act Not 1 of 28 Source Categories

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

This stationary source consists of the following emission units and pollution control devices:

- (a) One (1) six hundred fifty (650) tons per hour aggregate dryer, installed in June 1990, processing steel slag and certified ground asbestos-free shingles*, in the aggregate mix, with a burner capacity of 116 million British thermal units per hour, and exhausting through a baghouse at stack SV1. This dryer is fired by natural gas, #2 fuel oil, #4 fuel oil, #4 waste oil, and biodiesel, as available. This unit has the capability of processing both hot-mix and warm-mix asphalt;

[Note: *approved to process certified asbestos-free shingles in 2011 and no grinding of shingles occurs at this source.]

- (b) An alternate drying process, used to dry magnetite, with a maximum capacity of 75,000 tons per year, exhausting through a baghouse at stack SV1;
- (c) One (1) baghouse with a total filter area of 13,149 ft², exhausting at stack SV1;
- (d) One (1) RAP feed bin with a maximum holding capacity of 25 tons.
- (e) One (1) recycled asphalt pavement (RAP) crusher, rated at 150 ton per hour, constructed in 1990;
- (f) One (1) 20,000 gallon liquid storage tank (ID # 12A) for PG 64-34, installed in 1996;
- (g) One (1) 30,000 gallon liquid asphalt storage tank (ID # 12B) for AC-10, installed in June 1990;

- (h) One (1) 30,000 gallon liquid asphalt storage tank (ID # 12C) for AC-20, installed in June 1990;
- (i) Two (2) 18,000 gallon tanks (ID # 16) for #2 fuel storage, installed in 1990; and
- (j) Cold-mix (stockpile mix) asphalt manufacturing operations and storage piles.

A.3 Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-8-3(c)(3)(I)]

This stationary source also includes the following insignificant activities:

- (a) Natural gas-fired combustion sources with a heat input equal to or less than 10 million British thermal units per hour;
 - (1) One (1) hot oil heater, fired by natural gas and rated at 2.10 million British thermal units per hour, and exhausting to stack SV2, installed in June 1990;
- (b) Propane or liquefied petroleum gas, or butane-fired combustion sources with heat input equal to or less than 6 million British thermal units per hour;
- (c) Replacement of repair of electrostatic precipitators, bags in baghouses, and filters in other air filtration equipment;
- (d) A laboratory as defined in 326 IAC 2-7-1(21)(D);
- (e) paved roadways;
- (f) Two (2) storage silos, each with a maximum storage capacity of 200 tons, installed in May, 2002;
- (g) Three (3) storage silos, each with a maximum storage capacity of 300 tons, installed in June 1990;
- (h) Four (4) storage silos, each with a maximum storage capacity of 400 tons, installed in June 1990; and
- (i) One (1) 500 gallon gasoline storage tank, installed in 1990.

Under 40 CFR 63, Subpart CCCCCC: National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities, the 500 gallon gasoline storage tank, and associated gasoline fuel transfer and dispensing operations, is considered an affected facility.

A.4 FESOP Applicability [326 IAC 2-8-2]

This stationary source, otherwise required to have a Part 70 permit as described in 326 IAC 2-7-2(a), has applied to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) to renew a Federally Enforceable State Operating Permit (FESOP).

SECTION B GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-8-1]

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-7) shall prevail.

B.2 Permit Term [326 IAC 2-8-4(2)][326 IAC 2-1.1-9.5][IC 13-15-3-6(a)]

- (a) This permit, F163-23182-00186 (formerly plant ID 163-03408), is issued for a fixed term of ten (10) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.
- (b) If IDEM, OAQ, upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, until the renewal permit has been issued or denied.

B.3 Term of Conditions [326 IAC 2-1.1-9.5]

Notwithstanding the permit term of a permit to construct, a permit to operate, or a permit modification, any condition established in a permit issued pursuant to a permitting program approved in the state implementation plan shall remain in effect until:

- (a) the condition is modified in a subsequent permit action pursuant to Title I of the Clean Air Act; or
- (b) the emission unit to which the condition pertains permanently ceases operation.

B.4 Enforceability [326 IAC 2-8-6] [IC 13-17-12]

Unless otherwise stated, all terms and conditions in this permit, including any provisions designed to limit the source's potential to emit, are enforceable by IDEM, the United States Environmental Protection Agency (U.S. EPA) and by citizens in accordance with the Clean Air Act.

B.5 Severability [326 IAC 2-8-4(4)]

The provisions of this permit are severable; a determination that any portion of this permit is invalid shall not affect the validity of the remainder of the permit.

B.6 Property Rights or Exclusive Privilege [326 IAC 2-8-4(5)(D)]

This permit does not convey any property rights of any sort or any exclusive privilege.

B.7 Duty to Provide Information [326 IAC 2-8-4(5)(E)]

- (a) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. Upon request, the Permittee shall also furnish to IDEM, OAQ copies of records required to be kept by this permit.
- (b) For information furnished by the Permittee to IDEM, OAQ, the Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1. When furnishing copies of requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

B.8 Certification [326 IAC 2-8-3(d)][326 IAC 2-8-4(3)(C)(i)][326 IAC 2-8-5(1)]

- (a) A certification required by this permit meets the requirements of 326 IAC 2-8-5(a)(1) if:
- (i) it contains a certification by an "authorized individual", as defined by 326 IAC 2-1.1-1(1), and
 - (ii) the certification is based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- (b) The Permittee may use the attached Certification Form, or its equivalent, with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.
- (c) An "authorized individual" is defined at 326 IAC 2-1.1-1(1).

B.9 Annual Compliance Certification [326 IAC 2-8-5(a)(1)]

- (a) The Permittee shall annually submit a compliance certification report, which addresses the status of the source's compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. All certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted no later than April 15 of each year to:
- Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
- (b) The annual compliance certification report required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (c) The annual compliance certification report shall include the following:
- (1) The appropriate identification of each term or condition of this permit that is the basis of the certification;
 - (2) The compliance status;
 - (3) Whether compliance was continuous or intermittent;
 - (4) The methods used for determining the compliance status of the source, currently and over the reporting period consistent with 326 IAC 2-8-4(3); and
 - (5) Such other facts, as specified in Sections D of this permit, as IDEM, OAQ may require to determine the compliance status of the source.

The submittal by the Permittee does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

B.10 Compliance Order Issuance [326 IAC 2-8-5(b)]

IDEM, OAQ may issue a compliance order to this Permittee upon discovery that this permit is in nonconformance with an applicable requirement. The order may require immediate compliance or contain a schedule for expeditious compliance with the applicable requirement.

B.11 Preventive Maintenance Plan [326 IAC 1-6-3][326 IAC 2-8-4(9)][326 IAC 2-8-5(a)(1)]

(a) A Preventive Maintenance Plan meets the requirements of 326 IAC 1-6-3 if it includes, at a minimum:

- (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
- (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and
- (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

The Permittee shall implement the PMPs.

(b) If required by specific condition(s) in Section D of this permit where no PMP was previously required, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) no later than ninety (90) days after issuance of this permit or ninety (90) days after initial start-up, whichever is later, including the following information on each facility:

- (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
- (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and
- (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If, due to circumstances beyond the Permittee's control, the PMPs cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The PMP extension notification does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

The Permittee shall implement the PMPs.

(c) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions. The PMPs and their submittal do not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (d) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

B.12 Emergency Provisions [326 IAC 2-8-12]

- (a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation except as provided in 326 IAC 2-8-12.

- (b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a health-based or technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:

- (1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;
- (2) The permitted facility was at the time being properly operated;
- (3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;
- (4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ, SWRO within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance and Enforcement Branch), or
Telephone Number: 317-233-0178 (ask for Office of Air Quality, Compliance and Enforcement Branch)
Facsimile Number: 317-233-6865

- (5) For each emergency lasting one (1) hour or more, the Permittee submitted the attached Emergency Occurrence Report Form or its equivalent, either by mail or facsimile to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

within two (2) working days of the time when emission limitations were exceeded due to the emergency.

The notice fulfills the requirement of 326 IAC 2-8-4(3)(C)(ii) and must contain the following:

- (A) A description of the emergency;
- (B) Any steps taken to mitigate the emissions; and
- (C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (6) The Permittee immediately took all reasonable steps to correct the emergency.
- (c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.
- (d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.
- (e) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions. However, IDEM, OAQ may require that the Preventive Maintenance Plans required under 326 IAC 2-8-3(c)(6) be revised in response to an emergency.
- (f) Failure to notify IDEM, OAQ by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-8 and any other applicable rules.
- (g) Operations may continue during an emergency only if the following conditions are met:
 - (1) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.
 - (2) If an emergency situation causes a deviation from a health-based limit, the Permittee may not continue to operate the affected emissions facilities unless:
 - (A) The Permittee immediately takes all reasonable steps to correct the emergency situation and to minimize emissions; and
 - (B) Continued operation of the facilities is necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw material of substantial economic value.

Any operations shall continue no longer than the minimum time required to prevent the situations identified in (g)(2)(B) of this condition.

B.13 Prior Permits Superseded [326 IAC 2-1.1-9.5]

- (a) All terms and conditions of permits established prior to F163-23182-00186 (formerly plant ID 163-03408) and issued pursuant to permitting programs approved into the state implementation plan have been either:
 - (1) incorporated as originally stated,
 - (2) revised, or
 - (3) deleted.
- (b) All previous registrations and permits are superseded by this permit.

B.14 Termination of Right to Operate [326 IAC 2-8-9][326 IAC 2-8-3(h)]

The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least nine (9) months prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-8-3(h) and 326 IAC 2-8-9.

**B.15 Permit Modification, Reopening, Revocation and Reissuance, or Termination
[326 IAC 2-8-4(5)(C)][326 IAC 2-8-7(a)][326 IAC 2-8-8]**

- (a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Federally Enforceable State Operating Permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-8-4(5)(C)] The notification by the Permittee does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ determines any of the following:
- (1) That this permit contains a material mistake.
 - (2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.
 - (3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-8-8(a)]
- (c) Proceedings by IDEM, OAQ to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-8-8(b)]
- (d) The reopening and revision of this permit, under 326 IAC 2-8-8(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAQ at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ may provide a shorter time period in the case of an emergency. [326 IAC 2-8-8(c)]

B.16 Permit Renewal [326 IAC 2-8-3(h)]

- (a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-8-3. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(40). The renewal application does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

- (b) A timely renewal application is one that is:

- (1) Submitted at least nine (9) months prior to the date of the expiration of this permit; and
- (2) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-8 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified, pursuant to 326 IAC 2-8-3(g), in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.17 Permit Amendment or Revision [326 IAC 2-8-10][326 IAC 2-8-11.1]

- (a) Permit amendments and revisions are governed by the requirements of 326 IAC 2-8-10 or 326 IAC 2-8-11.1 whenever the Permittee seeks to amend or modify this permit.
- (b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Any such application does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

B.18 Operational Flexibility [326 IAC 2-8-15][326 IAC 2-8-11.1]

- (a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-8-15(b) through (d) without a prior permit revision, if each of the following conditions is met:
 - (1) The changes are not modifications under any provision of Title I of the Clean Air Act;
 - (2) Any approval required by 326 IAC 2-8-11.1 has been obtained;
 - (3) The changes do not result in emissions, which exceed the limitations provided in this permit (whether expressed herein as a rate of emissions or in terms of total emissions);
 - (4) The Permittee notifies the:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Regulation Development Branch - Indiana (AR-18J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

in advance of the change by written notification at least ten (10) days in advance of the proposed change. The Permittee shall attach every such notice to the Permittee's copy of this permit; and

- (5) The Permittee maintains records on-site, on a rolling five (5) year basis, which document all such changes and emission trades that are subject to 326 IAC 2-8-15(b) through (d). The Permittee shall make such records available, upon reasonable request, for public review.

Such records shall consist of all information required to be submitted to IDEM, OAQ in the notices specified in 326 IAC 2-8-15(b)(2), (c)(1), and (d).

- (b) **Emission Trades [326 IAC 2-8-15(c)]**
The Permittee may trade emissions increases and decreases at the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-8-15(c).
- (c) **Alternative Operating Scenarios [326 IAC 2-8-15(d)]**
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-8-4(7). No prior notification of IDEM, OAQ, or U.S. EPA is required.
- (d) Backup fuel switches specifically addressed in, and limited under, Section D of this permit shall not be considered alternative operating scenarios. Therefore, the notification requirements of part (a) of this condition do not apply.

B.19 Source Modification Requirement [326 IAC 2-8-11.1]

A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2.

B.20 Inspection and Entry [326 IAC 2-8-5(a)(2)][IC 13-14-2-2][IC 13-17-3-2][IC 13-30-3-1]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:

- (a) Enter upon the Permittee's premises where a FESOP source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- (b) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- (c) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;

- (d) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

B.21 Transfer of Ownership or Operational Control [326 IAC 2-8-10]

- (a) The Permittee must comply with the requirements of 326 IAC 2-8-10 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.
- (b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Any such application does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

B.22 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-8-4(6)] [326 IAC 2-8-16][326 IAC 2-1.1-7]

- (a) The Permittee shall pay annual fees to IDEM, OAQ no later than thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ the applicable fee is due April 1 of each year.
- (b) Failure to pay may result in administrative enforcement action or revocation of this permit.
- (c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

B.23 Advanced Source Modification Approval [326 IAC 2-8-4(11)] [326 IAC 2-1.1-9]

- (a) The requirements to obtain a permit modification under 326 IAC 2-8-11.1 are satisfied by this permit for the proposed emission units, control equipment or insignificant activities in Sections A.2 and A.3.
- (b) Pursuant to 326 IAC 2-1.1-9 any permit authorizing construction may be revoked if construction of the emission unit has not commenced within eighteen (18) months from the date of issuance of the permit, or if during the construction, work is suspended for a continuous period of one (1) year or more.

B.24 Credible Evidence [326 IAC 2-8-4(3)][326 IAC 2-8-5][62 FR 8314] [326 IAC 1-1-6]

For the purpose of submitting compliance certifications or establishing whether or not the Permittee has violated or is in violation of any condition of this permit, nothing in this permit shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether the Permittee would have been in compliance with the condition of this permit if the appropriate performance or compliance test or procedure had been performed.

SECTION C

SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitations and Standards [326 IAC 2-8-4(1)]

C.1 Particulate Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) Pounds per Hour [326 IAC 6-3-2]

Pursuant to 326 IAC 6 3 2(e)(2), particulate emissions from any process not exempt under 326 IAC 6 3 1(b) or (c) which has a maximum process weight rate less than one hundred (100) pounds per hour and the methods in 326 IAC 6 3 2(b) through (d) do not apply shall not exceed five hundred fifty-one thousandths (0.551) pounds per hour.

C.2 Overall Source Limit [326 IAC 2-8]

The purpose of this permit is to limit this source's potential to emit to less than major source levels for the purpose of Section 502(a) of the Clean Air Act.

(a) Pursuant to 326 IAC 2-8:

- (1) The potential to emit any regulated pollutant, except particulate matter (PM) and green house gases, from the entire source shall be limited to less than one hundred (100) tons per twelve (12) consecutive month period.
- (2) The potential to emit any individual hazardous air pollutant (HAP) from the entire source shall be limited to less than ten (10) tons per twelve (12) consecutive month period; and
- (3) The potential to emit any combination of HAPs from the entire source shall be limited to less than twenty-five (25) tons per twelve (12) consecutive month period.
- (4) The potential to emit greenhouse gases (GHGs) from the entire source shall be limited to less than one hundred thousand (100,000) tons of CO₂ equivalent emissions (CO₂e) per twelve (12) consecutive month period.

(b) Pursuant to 326 IAC 2-2 (PSD), potential to emit particulate matter (PM) from the entire source shall be limited to less than two hundred fifty (250) tons per twelve (12) consecutive month period.

(c) This condition shall include all emission points at this source including those that are insignificant as defined in 326 IAC 2-7-1(21). The source shall be allowed to add insignificant activities not already listed in this permit, provided that the source's potential to emit does not exceed the above specified limits.

(d) Section D of this permit contains independently enforceable provisions to satisfy this requirement.

C.3 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-1 (Applicability) and 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of thirty percent (30%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.4 Open Burning [326 IAC 4-1] [IC 13-17-9]

The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6. The previous sentence notwithstanding, the Permittee may open burn in accordance with an open burning approval issued by the Commissioner under 326 IAC 4-1-4.1.

C.5 Incineration [326 IAC 4-2] [326 IAC 9-1-2]

The Permittee shall not operate an incinerator except as provided in 326 IAC 4-2 or in this permit. The Permittee shall not operate a refuse incinerator or refuse burning equipment except as provided in 326 IAC 9-1-2 or in this permit.

C.6 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions).

C.7 Fugitive Particulate Matter Emission Limitations [326 IAC 6-5]

Pursuant to 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations), fugitive particulate matter emissions shall be controlled according to the attached plan as in Attachment A.

C.8 Stack Height [326 IAC 1-7]

The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted.

C.9 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

- (a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.
- (b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:
 - (1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or
 - (2) If there is a change in the following:
 - (A) Asbestos removal or demolitions start date;
 - (B) Removal or demolition contractor; or
 - (C) Waste disposal site.
- (c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).

- (d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (e) **Procedures for Asbestos Emission Control**
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1, emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.
- (f) **Demolition and Renovation**
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).
- (g) **Indiana Licensed Asbestos Inspector**
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Licensed Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos.

Testing Requirements [326 IAC 2-8-4(3)]

C.10 Performance Testing [326 IAC 3-6]

- (a) For performance testing required by this permit, a test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted

by IDEM, OAQ if the Permittee submits to IDEM, OAQ a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

C.11 Compliance Requirements [326 IAC 2-1.1-11]

The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements by issuing an order under 326 IAC 2-1.1-11. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U. S. EPA.

Compliance Monitoring Requirements [326 IAC 2-8-4(3)][326 IAC 2-8-5(a)(1)]

C.12 Compliance Monitoring [326 IAC 2-8-4(3)][326 IAC 2-8-5(a)(1)]

Unless otherwise specified in this permit, for all monitoring requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance or of initial start-up, whichever is later, to begin such monitoring. If due to circumstances beyond the Permittee's control, any monitoring equipment required by this permit cannot be installed and operated no later than ninety (90) days after permit issuance or the date of initial startup, whichever is later, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

in writing, prior to the end of the initial ninety (90) day compliance schedule, with full justification of the reasons for the inability to meet this date.

The notification which shall be submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Unless otherwise specified in the approval for the new emission unit(s), compliance monitoring for new emission units or emission units added through a permit revision shall be implemented when operation begins.

C.13 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-8-4(3)][326 IAC 2-8-5(1)]

- (a) When required by any condition of this permit, an analog instrument used to measure a parameter related to the operation of an air pollution control device shall have a scale such that the expected maximum reading for the normal range shall be no less than twenty percent (20%) of full scale.
- (b) The Permittee may request that the IDEM, OAQ approve the use of an instrument that does not meet the above specifications provided the Permittee can demonstrate that an alternative instrument specification will adequately ensure compliance with permit conditions requiring the measurement of the parameters.

Corrective Actions and Response Steps [326 IAC 2-8-4][326 IAC 2-8-5(a)(1)]

C.14 Risk Management Plan [326 IAC 2-8-4] [40 CFR 68]

If a regulated substance, as defined in 40 CFR 68, is present at a source in more than a threshold quantity, the Permittee must comply with the applicable requirements of 40 CFR 68.

C.15 Response to Excursions or Exceedances [326 IAC 2-8-4] [326 IAC 2-8-5]

Upon detecting an excursion where a response step is required by the D Section or an exceedance of a limitation in this permit:

- (a) The Permittee shall take reasonable response steps to restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing excess emissions.
- (b) The response shall include minimizing the period of any startup, shutdown or malfunction. The response may include, but is not limited to, the following:
 - (1) initial inspection and evaluation;
 - (2) recording that operations returned or are returning to normal without operator action (such as through response by a computerized distribution control system); or
 - (3) any necessary follow-up actions to return operation to normal or usual manner of operation.
- (c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:
 - (1) monitoring results;
 - (2) review of operation and maintenance procedures and records; and/or
 - (3) inspection of the control device, associated capture system, and the process.
- (d) Failure to take reasonable response steps shall be considered a deviation from the permit.
- (e) The Permittee shall record the reasonable response steps taken.

C.16 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-8-4][326 IAC 2-8-5]

- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall submit a description of its response actions to IDEM, OAQ, no later than seventy-five (75) days after the date of the test.
- (b) A retest to demonstrate compliance shall be performed no later than one hundred eighty (180) days after the date of the test. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred eighty (180) days is not practicable, IDEM, OAQ may extend the retesting deadline
- (c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The response action documents submitted pursuant to this condition do require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]

C.17 General Record Keeping Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-5]

- (a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (b) Unless otherwise specified in this permit, for all record keeping requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance or the date of initial start-up, whichever is later, to begin such record keeping.
- (c) If there is a reasonable possibility (as defined in 40 CFR 51.165(a)(6)(vi)(A), 40 CFR 51.165(a)(6)(vi)(B), 40 CFR 51.166(r)(6)(vi)(a), and/or 40 CFR 51.166(r)(6)(vi)(b)) that a "project" (as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-1(II)) at an existing emissions unit, other than projects at a source with a Plantwide Applicability Limitation (PAL), which is not part of a "major modification" (as defined in 326 IAC 2-2-1(ee) and/or 326 IAC 2-3-1(z)) may result in significant emissions increase and the Permittee elects to utilize the "projected actual emissions" (as defined in 326 IAC 2-2-1(rr) and/or 326 IAC 2-3-1(mm)), the Permittee shall comply with following:
 - (1) Before beginning actual construction of the "project" (as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-1(II)) at an existing emissions unit, document and maintain the following records:
 - (A) A description of the project.
 - (B) Identification of any emissions unit whose emissions of a regulated new source review pollutant could be affected by the project.
 - (C) A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including:
 - (i) Baseline actual emissions;
 - (ii) Projected actual emissions;
 - (iii) Amount of emissions excluded under section 326 IAC 2-2-1(rr)(2)(A)(iii) and/or 326 IAC 2-3-1 (mm)(2)(A)(iii); and
 - (iv) An explanation for why the amount was excluded, and any netting calculations, if applicable.
- (d) If there is a reasonable possibility (as defined in 40 CFR 51.165(a)(6)(vi)(A) and/or 40 CFR 51.166(r)(6)(vi)(a)) that a "project" (as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-1(II)) at an existing emissions unit, other than projects at a source with a Plantwide Applicability Limitation (PAL), which is not part of a "major modification" (as defined in 326 IAC 2-2-1(ee) and/or 326 IAC 2-3-1(z)) may result in significant emissions increase and the Permittee elects to utilize the "projected actual emissions" (as defined in 326 IAC 2-2-1(rr) and/or 326 IAC 2-3-1(mm)), the Permittee shall comply with following:

- (1) Monitor the emissions of any regulated NSR pollutant that could increase as a result of the project and that is emitted by any existing emissions unit identified in (1)(B) above; and
- (2) Calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of five (5) years following resumption of regular operations after the change, or for a period of ten (10) years following resumption of regular operations after the change if the project increases the design capacity of or the potential to emit that regulated NSR pollutant at the emissions unit.

C.18 General Reporting Requirements [326 IAC 2-8-4(3)(C)] [326 IAC 2-1.1-11]

- (a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported except that a deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. This report shall be submitted not later than thirty (30) days after the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1). A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.
- (b) The address for report submittal is:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
- (c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (d) Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit, "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.
- (e) If the Permittee is required to comply with the recordkeeping provisions of (d) in Section C - General Record Keeping Requirements for any "project" (as defined in 326 IAC 2-2-1 (qq) and/or 326 IAC 2-3-1 (ll)) at an existing emissions unit, and the project meets the following criteria, then the Permittee shall submit a report to IDEM, OAQ:
 - (1) The annual emissions, in tons per year, from the project identified in (c)(1) in Section C- General Record Keeping Requirements exceed the baseline actual emissions, as documented and maintained under Section C- General Record Keeping Requirements (c)(1)(C)(i), by a significant amount, as defined in 326 IAC 2-2-1 (xx) and/or 326 IAC 2-3-1 (qq), for that regulated NSR pollutant, and
 - (2) The emissions differ from the preconstruction projection as documented and maintained under Section C - General Record Keeping Requirements (c)(1)(C)(ii).

- (f) The report for project at an existing emissions unit shall be submitted no later than sixty (60) days after the end of the year and contain the following:
- (1) The name, address, and telephone number of the major stationary source.
 - (2) The annual emissions calculated in accordance with (d)(1) and (2) in Section C - General Record Keeping Requirements.
 - (3) The emissions calculated under the actual-to-projected actual test stated in 326 IAC 2-2-2(d)(3) and/or 326 IAC 2-3-2(c)(3).
 - (4) Any other information that the Permittee wishes to include in this report such as an explanation as to why the emissions differ from the preconstruction projection.

Reports required in this part shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

- (g) The Permittee shall make the information required to be documented and maintained in accordance with (c) in Section C- General Record Keeping Requirements available for review upon a request for inspection by IDEM, OAQ. The general public may request this information from the IDEM, OAQ under 326 IAC 17.1.

Stratospheric Ozone Protection

C.19 Compliance with 40 CFR 82 and 326 IAC 22-1

Pursuant to 40 CFR 82 (Protection of Stratospheric Ozone), Subpart F, except as provided for motor vehicle air conditioners in Subpart B, the Permittee shall comply with applicable standards for recycling and emissions reduction.

SECTION D.1

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:

- (a) One (1) six hundred fifty (650) tons per hour aggregate dryer, installed in June 1990, processing steel slag and certified ground asbestos-free shingles*, in the aggregate mix, with a burner capacity of 116 million British thermal units per hour, and exhausting through a baghouse at stack SV1. This dryer is fired by natural gas, #2 fuel oil, #4 fuel oil, #4 waste oil, and biodiesel, as available. This unit has the capability of processing both hot-mix and warm-mix asphalt;

[Note: *approved to process certified asbestos-free shingles in 2011 and no grinding of shingles occurs at this source.]

- (b) An alternate drying process, used to dry magnetite, with a maximum capacity of 75,000 tons per year, exhausting through a baghouse at stack SV1;
- (c) One (1) baghouse with a total filter area of 13,149 ft², exhausting at stack SV1; and
- (d) One (1) recycled asphalt pavement (RAP) crusher, rated at 150 ton per hour, constructed in 1990.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-8-4(1)]

D.1.1 Particulate Matter (PM) [326 IAC 6.5-1-2]

Pursuant to 326 IAC 6.5-1-2(a) (Nonattainment Area Particulate Limitations), particulate matter (PM) emissions from the aggregate mixing and drying operation and magnetite drying operation shall be limited to 0.03 grains per dry standard cubic foot (gr/dscf) for particulate matter. Compliance with this limit will also demonstrate compliance with the PM emission limit pursuant to 40 CFR 60.90, Subpart I.

D.1.2 Particulate Matter (PM) [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the RAP crusher shall not exceed 55.44 pounds per hour when operating at a process weight rate of 150 tons per hour.

The pound per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 55.0 P^{0.11} - 40$$

where: E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

D.1.3 PSD Minor Limit [326 IAC 2-2]

- (a) Particulate matter emissions from the aggregate dryer and mixer shall not exceed 0.148 pounds PM per ton of asphalt mix.
- (b) Particulate matter emissions from the magnetite drying operation shall not exceed 0.040 pounds PM per ton of magnetite.

- (c) Particulate matter emissions from the shingles handling shall not exceed 0.007 pounds PM per ton of shingles.

Compliance with the above limits, in addition to the limit in condition D.1.6, will limit total source wide PM emissions to less than 250 tons per year. Therefore, compliance with this limit will render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

D.1.4 FESOP and PSD Limits [326 IAC 2-8-4] [326 IAC 2-2]

Pursuant to 326 IAC 2-8-4, and in order to limit the SO₂ emissions from the aggregate dryer, the Permittee shall comply with the following:

- (a) The amount of steel slag used in the production of hot-mix and warm-mix asphalt, combined, shall not exceed 100,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (b) The calendar-month average sulfur content of the steel slag shall not exceed sixty-six hundredths percent (0.66%) by weight with compliance determined at the end of each month.
- (c) SO₂ emissions from the steel slag used in the hot-mix asphalt dryer/mixer shall not exceed fourteen ten-thousandths (0.0014) pounds of SO₂ per ton of steel slag processed.

Compliance with these limits, combined with the potential SO₂ emissions from all other emission units at this source, shall limit the source-wide total potential to emit SO₂ to less than one hundred (100) tons per twelve (12) consecutive month period, and shall render 326 IAC 2-7 (Part 70 Permits) and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

D.1.5 Particulate Matter (PM₁₀ and PM_{2.5}) [326 IAC 2-8-4] [326 IAC 2-2] [326 IAC 2-3]

Pursuant to 326 IAC 2-8-4, the following limits shall apply:

- (a) PM₁₀ emissions from the aggregate mixing and drying operation shall be limited to 0.083 pounds per ton of asphalt produced. This will limit the total potential to emit PM₁₀ from the aggregate dryer and mixer to less than 59.50 tons per year.
- (b) PM₁₀ emissions from the magnetite drying operation shall be limited to 0.04 pounds per ton of magnetite. This will limit the total potential to emit PM₁₀ from the magnetite drying operation to less than 1.50 tons per year.
- (c) PM₁₀ emissions from the shingles handlings shall be limited to 0.003 pounds per ton of shingles. This will limit the total potential to emit PM₁₀ from the shingles operation to less than 0.001 tons per year.
- (d) PM_{2.5} emissions from the aggregate mixing and drying operation shall be limited to 0.083 pounds per ton of asphalt produced. This will limit the total potential to emit PM_{2.5} from the aggregate dryer and mixer to less than 59.50 tons per year.
- (e) PM_{2.5} emissions from the magnetite drying operation shall be limited to 0.04 pounds per ton of magnetite. This will limit the total potential to emit PM_{2.5} from the magnetite drying operation to less than 1.50 tons per year.
- (f) PM_{2.5} emissions from the shingles handling shall be limited to 0.0005 pounds per ton of shingles. This will limit the total potential to emit PM_{2.5} from the shingles operation to less than 0.001 tons per year.

Compliance with these limits, combined with the potential to emit PM₁₀ and PM_{2.5} from all other emission units at this source, in addition to the limit in conditions D.1.3 and D.1.6, shall limit the source-wide total potential to emit of PM₁₀ and PM_{2.5} to less than 100 tons per 12 consecutive

month period, each, and shall render 326 IAC 2-7 (Part 70 Permits), 326 IAC 2-2 (Prevention of Significant Deterioration (PSD) and 326 IAC 2-3 (Emission Offset) not applicable.

D.1.6 FESOP Limit [326 IAC 2-8]

Pursuant to 326 IAC 2-8-4, the following limits shall apply:

- (a) The annual throughput to the aggregate dryer shall be not exceed 1,440,000 tons of hot-mix and warm-mix asphalt, combined, per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (b) The annual throughput to the magnetite drying operation shall not exceed 75,000 tons of magnetite per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (c) The Permittee shall use only certified asbestos-free shingles.
- (d) The maximum asbestos-free shingles usage shall not exceed 200 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with the above limits, in addition to the limit in conditions D.1.3, D.1.5, D.1.7 and D.1.8, will limit the source's emissions of all regulated pollutants, except PM, to less than 100 tons per year. PM emissions are limited to less than 250 tons per year. This will also limit combined HAP emissions to less than 25 tons per year. Therefore, the requirements of 326 IAC 2-7 (Part 70), and 326 IAC 2-2 (PSD) are not applicable.

D.1.7 Volatile Organic Compounds (VOCs) [326 IAC 8-1-6]

- (a) VOC emissions from the drum mix dryer shall not exceed 0.032 pounds of VOC per ton of hot mix, and/or warm-mix, asphalt produced.
- (b) VOC emissions from the silo filling process shall not exceed 0.0122 pounds of VOC per tons of hot mix, and/or warm-mix, asphalt produced.

Compliance with the above limits, in addition to the limit in condition D.1.6, will limit VOC emissions from the drum mix dryer and the silo filling process each to less than 25 tons per year. Compliance with this limit will render the requirements of 326 IAC 8-1-6 not applicable to these facilities.

D.1.8 Carbon monoxide (CO) [326 IAC 2-8]

Pursuant to 326 IAC 2-8-4, the following shall apply:

- (a) CO emissions from the drum mix dryer shall not exceed 0.13 pounds of CO per ton of hot mix, and/or warm-mix, asphalt produced.
- (b) CO emissions from the silo filling process shall not exceed 0.019 pounds of VOC per ton of hot mix, and/or warm-mix, asphalt produced.

Compliance with the above limits, in addition to the limit in condition D.1.6, will limit total source-wide CO emissions to less than 100 tons per year. Compliance with this limit will satisfy 326 IAC 2-8-4 and render the requirements of Part 70 (326 IAC 2-7) not applicable.

D.1.9 Sulfur Dioxide (SO₂) [326 IAC 7-1.1-1] [326 IAC 7-2-1]

Pursuant to 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations), sulfur dioxide emissions from the 116 million British thermal units per hour burner for the aggregate dryer shall be limited to 0.5 pounds per MMBtu heat input when using distillate oils and 1.6 pounds per MMBtu heat input when firing residual oils. This is equivalent to the following maximum allowable sulfur contents of the following fuels: No. 2 fuel oil and biodiesel (0.5%), No. 4 waste oil (1.5%) and No. 4 fuel oil (1.5%).

Pursuant to 326 IAC 7-1.1-2, this sulfur dioxide limit applies at all times including periods of startup,

shutdown, and malfunction. Pursuant to 326 IAC 7-2-1, compliance shall be demonstrated on a calendar month average, with compliance determined at the end of each month.

D.1.10 No. 4 Fuel Usage and Equivalents [326 IAC 2-8]

Pursuant to 326 IAC 2-8-4(1), the following limits shall apply:

- (a) The sulfur content of the No. 2 fuel oil and biodiesel used in the 116 MMBtu per hour burner for the aggregate dryer shall not exceed 0.5 % by weight, each. The sulfur content of the No. 4 fuel oil and waste oil used in the 116 MMBtu per hour burner for the aggregate dryer shall not exceed 1.0 % and 0.7% by weight, respectively.
- (b) The input of No. 4 fuel oil with a maximum sulfur content of 1.0% and No. 4 fuel oil equivalents to the 116 MMBtu per hour burner for the aggregate dryer shall be limited to 1,331,926 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (c) For purposes of determining compliance based on SO₂ emissions, the following shall apply:
 - (1) every million cubic feet (MMCF) of natural gas burned shall be equivalent to 4.0 gallons of No. 4 fuel oil based on SO₂ emissions, such that the total input of No. 4 fuel oil and No. 4 fuel oil equivalent input does not exceed the limit specified;
 - (2) every 1,000 gallons of No. 2 distillate oil burned in the aggregate dryer burner shall be equivalent to 512.3 gallons of No. 4 fuel oil based on SO₂ emissions and a maximum No. 2 distillate oil sulfur content of 0.5% such that the total gallons of No. 4 fuel oil and No. 4 fuel oil equivalent input does not exceed the limit specified; and
 - (3) every 1,000 gallons of waste oil (No. 4) burned in the aggregate dryer burner shall be equivalent to 686.0 gallons of No. 4 fuel oil based on SO₂ emissions and a maximum waste oil sulfur content of 0.7 % such that the total gallons of No. 4 fuel oil and No. 4 fuel oil equivalent input does not exceed the limit specified.
 - (4) every 1,000 gallons of biodiesel burned in the aggregate dryer burner shall be equivalent to 512.3 gallons of No. 4 fuel oil based on SO₂ emissions and a maximum waste oil sulfur content of 0.5 % such that the total gallons of No. 4 fuel oil and No. 4 fuel oil equivalent input does not exceed the limit specified.

Compliance with these limits, combined with the SO₂ emissions from all other units at this source, will limit the source-wide SO₂ emissions, and indirectly NO_x emissions, to less than 100 tons per twelve (12) consecutive month period, each, and shall render 326 IAC 2-7 (Part 70 Permit Program), 326 IAC 2-2 (PSD)), and 326 IAC 2-3 (Emission Offset) not applicable.

D.1.11 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan is required for this facility and any control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements

D.1.12 Testing Requirements [326 IAC 2-8-5(a)(1), (4)] [326 IAC 2-1.1-11][40 CFR 60.93][326 IAC 12]

- (a) Not later than five (5) years from October 26, 2004, in order to demonstrate compliance with Conditions D.1.1, D.1.3(a), D.1.5, and D.1.21 the Permittee shall perform PM testing for the aggregate dryer/mixer utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the

provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C- Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

- (b) In order to demonstrate compliance with Conditions D.1.1, D.1.3(a), D.1.5(a) and (c), and D.1.21, the Permittee shall perform PM2.5 and PM10 testing for the baghouse controlling the aggregate dryer/mixer within 180 days of publication of the new or revised condensable PM test method(s) referenced in the U. S. EPA's Final Rule for Implementation of the New Source Review (NSR) Program for Particulate Matter Less Than 2.5 Micrometers (PM2.5), signed on May 8th, 2008, or within five (5) years of issuance of FESOP Revision No. 163-27958-00186, whichever is later. This testing shall be conducted utilizing methods as approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition. PM10 and PM2.5, each, includes filterable and condensable PM.
- (c) Pursuant to 40 CFR 60.93, compliance with the PM standards in 40 CFR 60.92 and condition D.1.21 shall be determined by using Method 5 to determine particulate concentration. When determining the particulate concentration, the sampling time and sampling volume for each run shall be at least 60 minutes and 0.90 dry standard cubic meters (31.8 dry standard cubic feet).
- (d) Pursuant to 40 CFR 60.93, compliance with the opacity standards in 40 CFR 60.92 and condition D.1.21 shall be determined by utilizing 40 CFR Part 60 Appendix A, Method 9 to determine opacity. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C- Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.
- (e) Not later than one-hundred and eighty (180) days after issuance of this permit, Permit No F163-23182-00186 (formerly Plant ID# 163-03408), in order to demonstrate compliance with the opacity standards in 40 CFR 60.672 and condition D.1.23, the Permittee shall perform opacity testing for the RAP crusher utilizing 40 CFR Part 60 Appendix A, Method 9 at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C- Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

D.1.13 Sulfur Dioxide Emissions and Sulfur Content

Compliance shall be determined utilizing one of the following options.

- (a) Compliance with the slag limitations established in Condition D.1.4(b) shall be determined utilizing one of the following options.
 - (1) Providing vendor analysis of the steel slag delivered, if accompanied by a vendor certification; or
 - (2) Analyzing a sample of the slag delivery to determine the sulfur content of the steel slag, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.
 - (3) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the one hundred twenty (120) million British thermal units per hour burner, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures

in 326 IAC 3-6, or other procedures approved by IDEM, OAQ.

A determination of noncompliance pursuant to any of the methods specified above shall not be refuted by evidence of compliance pursuant to the other method.

- (b) Pursuant to 326 IAC 3-7-4, the Permittee shall demonstrate that the sulfur dioxide emissions do not exceed five-tenths (0.5) pounds per million British thermal unit heat input when operating on No. 2 distillate oil, and biodiesel, each, and one and six-tenths (1.6) pounds per million British thermal unit heat input when operating on No. 4 fuel oil and waste oil (No. 4) by:
- (1) Providing vendor analysis of fuel delivered, if accompanied by a vendor certification; or
 - (2) Analyzing the oil sample to determine the sulfur content of the oil via the procedures in 40 CFR 60, Appendix A, Method 19.
 - (A) Oil samples may be collected from the fuel tank immediately after the fuel tank is filled and before any oil is combusted; and
 - (B) If a partially empty fuel tank is refilled, a new sample and analysis would be required upon filling.
 - (3) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the aggregate dryer and drum mixer using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6.
 - (4) In order to demonstrate compliance with Conditions D.1.9 and D.1.10, the Permittee shall demonstrate that weight percent sulfur dioxide in the fuels used does not exceed one half of a percent (0.5%) by weight when operating on No. 2 distillate fuel oil and biodiesel, each, one percent (1.0%) by weight when operating on No. 4 fuel oil, and seven tenths percent (0.7%) by weight when operating on No. 4 waste oil, using the methods described in (a) of this condition.

A determination of noncompliance pursuant to any of the methods specified in (a) or (b) above shall not be refuted by evidence of compliance pursuant to the other method.

D.1.14 Particulate Matter (PM, PM10, and PM2.5) Control

- (a) In order to comply with Conditions D.1.1, D.1.3, D.1.5, and D.1.21, the baghouse for particulate control shall be in operation and control emissions from the aggregate dryer, drum mixer and the magnetite drying operation at all times that the aggregate dryer, drum mixer, and magnetite drying operation are in operation.
- (b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

Compliance Monitoring Requirements [326 IAC 2-8-4][326 IAC 2-8-5(a)(1)]

D.1.15 Visible Emissions Notations

- (a) Daily visible emission notations of the magnetite dryer, aggregate dryer, and burner baghouse stack exhaust and the crushing, conveying, material transfer points, and screening shall be performed during normal daylight operations when exhausting to the

atmosphere. A trained employee shall record whether emissions are normal or abnormal.

- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take reasonable response. Section C- Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.1.16 Parametric Monitoring

The Permittee shall record the pressure drop across the baghouse used in conjunction with the aggregate dryer and mixer and magnetite drying process, once per day when the process is in operation and venting to the atmosphere. When for any one reading, the pressure drop across the baghouse is outside the normal range of 2.0 and 6.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps. Section C- Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the above-mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated or replaced at least once every six (6) months.

D.1.17 Broken or Failed Bag Detection

- (a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).
- (b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emission unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]

D.1.18 Record Keeping Requirements

- (a) To document the compliance status with the slag/shingles limitations in condition D.1.4, the Permittee shall maintain monthly records of the information listed in items (1) through (4)

below.

- (1) Calendar dates covered in the compliance determination period;
- (2) Actual steel slag/shingles usage, calendar-month average sulfur content and equivalent sulfur dioxide emission rates for all steel slag used at the source since the last compliance determination period;
- (3) A certification, signed by the owner or operator, that the records of the slag/shingles supplier certifications represent all of the steel slag used during the period; and
- (4) If the slag/shingles supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:
 - (A) slag/shingles supplier certifications;
 - (B) The name of the slag/shingles supplier; and
 - (C) A statement from the slag/shingles supplier that certifies the sulfur content of the steel slag and the shingles contain no asbestos.

Records that may be used to document the information included in (1) through (4) may include delivery tickets, manufacturer's data, material safety data sheets (MSDS), and other documents necessary to verify the type and amount used.

- (b) To document the compliance status with condition D.1.6, the Permittee shall maintain records in accordance with (1) through (3) below. Records maintained for (1) through (3) shall be taken monthly and shall be complete and sufficient to establish compliance with the annual throughput limits to the aggregate dryer and magnetite drying operation established in Condition D.1.6.
 - (1) Calendar dates covered in the compliance determination period;
 - (2) Asphalt mix throughput to the aggregate dryer per month since the last compliance determination period;
 - (3) Magnetite throughput to the magnetite dryer per month since the last compliance determination period; and
 - (4) Ground shingles throughput to the aggregate dryer per month since the last compliance determination period.
- (c) To document the compliance status with conditions D.1.9 and D.1.10, the Permittee shall maintain records in accordance with (1) through (6) below. Records maintained for (1) through (6) below shall be complete and sufficient to establish compliance with the SO₂ emission limits established in conditions D.1.9 and D.1.10.
 - (1) Calendar dates covered in the compliance determination period;
 - (2) Actual No. 4 fuel oil and No. 4 fuel oil equivalent usage per month since last compliance determination period and equivalent SO₂ and NO_x emissions;
 - (3) A certification, signed by the owner or operator, that the records of the fuel supplier certifications represent all of the fuel combusted during the period; and

If the fuel supplier certification is used to demonstrate compliance the following, as a minimum shall be maintained:

- (4) Fuel supplier certifications;
- (5) The name of the fuel supplier; and
- (6) A statement from the fuel supplier that certifies the sulfur content of the fuel oil.

The Permittee shall retain records of all recording/monitoring data and support information for a period of five (5) years, or longer, if specified elsewhere in this permit, from the date of the monitoring sample, measurement, or report. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit.

- (d) The Permittee shall maintain records sufficient to verify compliance with the procedures specified in Condition D.1.13. Records shall be maintained for a period of five (5) years and shall be made available upon request by IDEM, OAQ.
- (e) To document the compliance status with Condition D.1.15, the Permittee shall maintain daily records of visible emission notations from the magnetite dryer, aggregate dryer, and burner baghouse stack exhaust and the crushing, conveying, material transfer points, and screening or the reason why visible emission notations were not taken.
- (f) To document the compliance status with Condition D.1.16, the Permittee shall maintain daily records of the pressure drop during normal operation or the reason why a pressure drop reading was not taken.
- (g) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

D.1.19 Reporting Requirements

A quarterly summary of the information to document the compliance status with Conditions D.1.4(a), D.1.6, D.1.9, and D.1.10, shall be submitted using the reporting forms located at the end of this permit, or their equivalent, not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meet the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

New Source Performance Standards (NSPS) Requirements [326 IAC 2-8-4(1)]

D.1.20 General Provisions Relating to NSPS [326 IAC 12] [40 CFR 60, Subpart A]

Pursuant to 40 CFR 60, Subpart I, the Permittee shall comply with the provisions of 40 CFR 60 Subpart A - General Provisions, which are incorporated by reference as 326 IAC 12, for the aggregate dryer and burner in accordance with the schedule in 40 CFR 60, Subpart A.

D.1.21 NSPS, Requirements [40 CFR Part 60, Subpart I] [326 IAC 12]

Pursuant to CFR Part 60, Subpart I, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart I, which are incorporated by reference as 326 IAC 12 for the aggregate dryer and burner as specified as follows:

§ 60.90 Applicability and designation of affected facility.

(a) The affected facility to which the provisions of this subpart apply is each hot mix asphalt facility. For the purpose of this subpart, a hot mix asphalt facility is comprised only of any combination of the following: dryers; systems for screening, handling, storing, and weighing hot aggregate; systems for loading, transferring, and storing mineral filler, systems for mixing hot mix asphalt; and the loading, transfer, and storage systems associated with emission control systems.

(b) Any facility under paragraph (a) of this section that commences construction or modification after June

11, 1973, is subject to the requirements of this subpart.

§ 60.91 Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act and in subpart A of this part.

(a) *Hot mix asphalt facility* means any facility, as described in §60.90, used to manufacture hot mix asphalt by heating and drying aggregate and mixing with asphalt cements.

§ 60.92 Standard for particulate matter.

(a) On and after the date on which the performance test required to be conducted by §60.8 is completed, no owner or operator subject to the provisions of this subpart shall discharge or cause the discharge into the atmosphere from any affected facility any gases which:

- (1) Contain particulate matter in excess of 90 mg/dscm (0.04 gr/dscf).
- (2) Exhibit 20 percent opacity, or greater.

§ 60.93 Test methods and procedures.

(a) In conducting the performance tests required in §60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in §60.8(b).

(b) The owner or operator shall determine compliance with the particulate matter standards in §60.92 as follows:

- (1) Method 5 shall be used to determine the particulate matter concentration. The sampling time and sample volume for each run shall be at least 60 minutes and 0.90 dscm (31.8 dscf).
- (2) Method 9 and the procedures in §60.11 shall be used to determine opacity.

D.1.22 General Provisions Relating to NSPS [326 IAC 12] [40 CFR 60, Subpart A]

Pursuant to 40 CFR 60, Subpart OOO, the Permittee shall comply with the provisions of 40 CFR 60 Subpart A - General Provisions, which are incorporated by reference as 326 IAC 12, for the crusher in accordance with the schedule in 40 CFR 60, Subpart A.

D.1.23 NSPS, Requirements [40 CFR Part 60, Subpart OOO] [326 IAC 12]

Pursuant to CFR Part 60, Subpart OOO, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart OOO, which are incorporated by reference as 326 IAC 12 for the crusher as specified as follows:

§ 60.670 Applicability and designation of affected facility.

(a)(1) Except as provided in paragraphs (a)(2), (b), (c), and (d) of this section, the provisions of this subpart are applicable to the following affected facilities in fixed or portable nonmetallic mineral processing plants: each crusher, grinding mill, screening operation, bucket elevator, belt conveyor, bagging operation, storage bin, enclosed truck or railcar loading station. Also, crushers and grinding mills at hot mix asphalt facilities that reduce the size of nonmetallic minerals embedded in recycled asphalt pavement and subsequent affected facilities up to, but not including, the first storage silo or bin are subject to the provisions of this subpart.

(2) The provisions of this subpart do not apply to the following operations: All facilities located in underground mines; and stand-alone screening operations at plants without crushers or grinding mills.

(b) An affected facility that is subject to the provisions of subpart F or I or that follows in the plant process any facility subject to the provisions of subparts F or I of this part is not subject to the provisions of this subpart.

(d)(1) When an existing facility is replaced by a piece of equipment of equal or smaller size, as defined in §60.671, having the same function as the existing facility, the new facility is exempt from the provisions of §§60.672, 60.674, and 60.675 except as provided for in paragraph (d)(3) of this section.

(2) An owner or operator complying with paragraph (d)(1) of this section shall submit the information required in §60.676(a).

(3) An owner or operator replacing all existing facilities in a production line with new facilities does not qualify for the exemption described in paragraph (d)(1) of this section and must comply with the provisions of §§60.672, 60.674 and 60.675.

(e) An affected facility under paragraph (a) of this section that commences construction, reconstruction, or modification after August 31, 1983 is subject to the requirements of this part.

(f) Table 1 of this subpart specifies the provisions of subpart A of this part 60 that apply and those that do not apply to owners and operators of affected facilities subject to this subpart.

Subpart A reference	Applies to Subpart OOO	Comment
60.1, Applicability.....	Yes.....	
60.2, Definitions.....	Yes.....	
60.3, Units and abbreviations.....	Yes.....	
60.4, Address:		
(a).....	Yes.....	
(b).....	Yes.....	
60.5, Determination of construction or modification.	Yes.....	
60.6, Review of plans.....	Yes.....	
60.7, Notification and recordkeeping..	Yes.....	Except in (a)(2) report of anticipated date of initial startup is not required (§ 60.676(h)).
60.8, Performance tests.....	Yes.....	Except in (d), after 30 days notice for an initially scheduled performance test, any rescheduled performance test requires 7 days notice, not 30 days (§ 60.675(g)).
60.9, Availability of information....	Yes.....	
60.10, State authority.....	Yes.....	
60.11, Compliance with standards and maintenance requirements.	Yes.....	Except in (b) under certain conditions (§§ 60.675 (c)(3) and (c)(4)), Method 9 observation may be reduced from 3 hours to 1 hour. Some affected facilities exempted from Method 9 tests (§ 60.675(h)).
60.12, Circumvention.....	Yes.....	
60.13, Monitoring requirements.....	Yes.....	
60.14, Modification.....	Yes.....	
60.15, Reconstruction.....	Yes.....	
60.16, Priority list.....	Yes.....	
60.17, Incorporations by reference....	Yes.....	
60.18, General control device.....	No.....	Flares will not be used to comply with the emission limits.
60.19, General notification and reporting requirements.	Yes.....	

§ 60.671 Definitions.

All terms used in this subpart, but not specifically defined in this section, shall have the meaning given them in the Act and in subpart A of this part.

Bagging operation means the mechanical process by which bags are filled with nonmetallic minerals.

Belt conveyor means a conveying device that transports material from one location to another by means of an endless belt that is carried on a series of idlers and routed around a pulley at each end.

Bucket elevator means a conveying device of nonmetallic minerals consisting of a head and foot assembly which supports and drives an endless single or double strand chain or belt to which buckets are attached.

Building means any frame structure with a roof.

Capacity means the cumulative rated capacity of all initial crushers that are part of the plant.

Capture system means the equipment (including enclosures, hoods, ducts, fans, dampers, etc.) used to capture and transport particulate matter generated by one or more process operations to a control device.

Control device means the air pollution control equipment used to reduce particulate matter emissions released to the atmosphere from one or more process operations at a nonmetallic mineral processing plant.

Conveying system means a device for transporting materials from one piece of equipment or location to another location within a plant. Conveying systems include but are not limited to the following: Feeders, belt conveyors, bucket elevators and pneumatic systems.

Crusher means a machine used to crush any nonmetallic minerals, and includes, but is not limited to, the following types: jaw, gyratory, cone, roll, rod mill, hammermill, and impactor.

Enclosed truck or railcar loading station means that portion of a nonmetallic mineral processing plant where nonmetallic minerals are loaded by an enclosed conveying system into enclosed trucks or railcars.

Fixed plant means any nonmetallic mineral processing plant at which the processing equipment specified in §60.670(a) is attached by a cable, chain, turnbuckle, bolt or other means (except electrical connections) to any anchor, slab, or structure including bedrock.

Fugitive emission means particulate matter that is not collected by a capture system and is released to the atmosphere at the point of generation.

Grinding mill means a machine used for the wet or dry fine crushing of any nonmetallic mineral. Grinding mills include, but are not limited to, the following types: hammer, roller, rod, pebble and ball, and fluid energy. The grinding mill includes the air conveying system, air separator, or air classifier, where such systems are used.

Initial crusher means any crusher into which nonmetallic minerals can be fed without prior crushing in the plant.

Nonmetallic mineral means any of the following minerals or any mixture of which the majority is any of the following minerals:

(a) Crushed and Broken Stone, including Limestone, Dolomite, Granite, Traprock, Sandstone, Quartz, Quartzite, Marl, Marble, Slate, Shale, Oil Shale, and Shell.

(b) Sand and Gravel.

(c) Clay including Kaolin, Fireclay, Bentonite, Fuller's Earth, Ball Clay, and Common Clay.

(d) Rock Salt.

(e) Gypsum.

(f) Sodium Compounds, including Sodium Carbonate, Sodium Chloride, and Sodium Sulfate.

(g) Pumice.

(h) Gilsonite.

- (i) Talc and Pyrophyllite.
- (j) Boron, including Borax, Kernite, and Colemanite.
- (k) Barite.
- (l) Fluorospar.
- (m) Feldspar.
- (n) Diatomite.
- (o) Perlite.
- (p) Vermiculite.
- (q) Mica.
- (r) Kyanite, including Andalusite, Sillimanite, Topaz, and Dumortierite.

Nonmetallic mineral processing plant means any combination of equipment that is used to crush or grind any nonmetallic mineral wherever located, including lime plants, power plants, steel mills, asphalt concrete plants, portland cement plants, or any other facility processing nonmetallic minerals except as provided in §60.670 (b) and (c).

Portable plant means any nonmetallic mineral processing plant that is mounted on any chassis or skids and may be moved by the application of a lifting or pulling force. In addition, there shall be no cable, chain, turnbuckle, bolt or other means (except electrical connections) by which any piece of equipment is attached or clamped to any anchor, slab, or structure, including bedrock that must be removed prior to the application of a lifting or pulling force for the purpose of transporting the unit.

Production line means all affected facilities (crushers, grinding mills, screening operations, bucket elevators, belt conveyors, bagging operations, storage bins, and enclosed truck and railcar loading stations) which are directly connected or are connected together by a conveying system.

Screening operation means a device for separating material according to size by passing undersize material through one or more mesh surfaces (screens) in series, and retaining oversize material on the mesh surfaces (screens).

Size means the rated capacity in tons per hour of a crusher, grinding mill, bucket elevator, bagging operation, or enclosed truck or railcar loading station; the total surface area of the top screen of a screening operation; the width of a conveyor belt; and the rated capacity in tons of a storage bin.

Stack emission means the particulate matter that is released to the atmosphere from a capture system.

Storage bin means a facility for storage (including surge bins) or nonmetallic minerals prior to further processing or loading.

Transfer point means a point in a conveying operation where the nonmetallic mineral is transferred to or from a belt conveyor except where the nonmetallic mineral is being transferred to a stockpile.

Truck dumping means the unloading of nonmetallic minerals from movable vehicles designed to transport nonmetallic minerals from one location to another. Movable vehicles include but are not limited to: trucks, front end loaders, skip hoists, and railcars.

Vent means an opening through which there is mechanically induced air flow for the purpose of exhausting from a building air carrying particulate matter emissions from one or more affected facilities.

Wet mining operation means a mining or dredging operation designed and operated to extract any nonmetallic mineral regulated under this subpart from deposits existing at or below the water table, where the nonmetallic mineral is saturated with water.

Wet screening operation means a screening operation at a nonmetallic mineral processing plant which removes unwanted material or which separates marketable fines from the product by a washing process which is designed and operated at all times such that the product is saturated with water.

§ 60.672 Standard for particulate matter.

(a) On and after the date on which the performance test required to be conducted by §60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any transfer point on belt conveyors or from any other affected facility any stack emissions which:

(1) Contain particulate matter in excess of 0.05 g/dscm (0.022 gr/dscf); and

(2) Exhibit greater than 7 percent opacity, unless the stack emissions are discharged from an affected facility using a wet scrubbing control device. Facilities using a wet scrubber must comply with the reporting provisions of §60.676 (c), (d), and (e).

(b) On and after the sixtieth day after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup as required under §60.11 of this part, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any transfer point on belt conveyors or from any other affected facility any fugitive emissions which exhibit greater than 10 percent opacity, except as provided in paragraphs (c), (d), and (e) of this section.

(c) On and after the sixtieth day after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup as required under §60.11 of this part, no owner or operator shall cause to be discharged into the atmosphere from any crusher, at which a capture system is not used, fugitive emissions which exhibit greater than 15 percent opacity.

(d) Truck dumping of nonmetallic minerals into any screening operation, feed hopper, or crusher is exempt from the requirements of this section.

§ 60.673 Reconstruction.

(a) The cost of replacement of ore-contact surfaces on processing equipment shall not be considered in calculating either the "fixed capital cost of the new components" or the "fixed capital cost that would be required to construct a comparable new facility" under §60.15. Ore-contact surfaces are crushing surfaces; screen meshes, bars, and plates; conveyor belts; and elevator buckets.

(b) Under §60.15, the "fixed capital cost of the new components" includes the fixed capital cost of all depreciable components (except components specified in paragraph (a) of this section) which are or will be replaced pursuant to all continuous programs of component replacement commenced within any 2-year period following August 31, 1983.

§ 60.675 Test methods and procedures.

(a) In conducting the performance tests required in §60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in §60.8(b). Acceptable alternative methods and procedures are given in paragraph (e) of this section.

(b) The owner or operator shall determine compliance with the particulate matter standards in §60.672(a) as follows:

(1) Method 5 or Method 17 shall be used to determine the particulate matter concentration. The sample volume shall be at least 1.70 dscm (60 dscf). For Method 5, if the gas stream being sampled is at ambient temperature, the sampling probe and filter may be operated without heaters. If the gas stream is above ambient temperature, the sampling probe and filter may be operated at a temperature high enough, but no higher than 121 °C (250 °F), to prevent water condensation on the filter.

(2) Method 9 and the procedures in §60.11 shall be used to determine opacity.

(c)(1) In determining compliance with the particulate matter standards in §60.672 (b) and (c), the owner or operator shall use Method 9 and the procedures in §60.11, with the following additions:

(i) The minimum distance between the observer and the emission source shall be 4.57 meters (15 feet).

(ii) The observer shall, when possible, select a position that minimizes interference from other fugitive emission sources (e.g., road dust). The required observer position relative to the sun (Method 9, Section 2.1) must be followed.

(iii) For affected facilities using wet dust suppression for particulate matter control, a visible mist is sometimes generated by the spray. The water mist must not be confused with particulate matter emissions and is not to be considered a visible emission. When a water mist of this nature is present, the observation of emissions is to be made at a point in the plume where the mist is no longer visible.

(2) In determining compliance with the opacity of stack emissions from any baghouse that controls emissions only from an individual enclosed storage bin under §60.672(f) of this subpart, using Method 9, the duration of the Method 9 observations shall be 1 hour (ten 6-minute averages).

(3) When determining compliance with the fugitive emissions standard for any affected facility described under §60.672(b) of this subpart, the duration of the Method 9 observations may be reduced from 3 hours (thirty 6-minute averages) to 1 hour (ten 6-minute averages) only if the following conditions apply:

(i) There are no individual readings greater than 10 percent opacity; and

(ii) There are no more than 3 readings of 10 percent for the 1-hour period.

(4) When determining compliance with the fugitive emissions standard for any crusher at which a capture system is not used as described under §60.672(c) of this subpart, the duration of the Method 9 observations may be reduced from 3 hours (thirty 6-minute averages) to 1 hour (ten 6-minute averages) only if the following conditions apply:

(i) There are no individual readings greater than 15 percent opacity; and

(ii) There are no more than 3 readings of 15 percent for the 1-hour period.

(f) To comply with §60.676(d), the owner or operator shall record the measurements as required in §60.676(c) using the monitoring devices in §60.674 (a) and (b) during each particulate matter run and shall determine the averages.

(g) If, after 30 days notice for an initially scheduled performance test, there is a delay (due to operational problems, etc.) in conducting any rescheduled performance test required in this section, the owner or operator of an affected facility shall submit a notice to the Administrator at least 7 days prior to any rescheduled performance test.

§ 60.676 Reporting and recordkeeping.

(a) Each owner or operator seeking to comply with §60.670(d) shall submit to the Administrator the following information about the existing facility being replaced and the replacement piece of equipment.

(1) For a crusher, grinding mill, bucket elevator, bagging operation, or enclosed truck or railcar loading station:

(i) The rated capacity in megagrams or tons per hour of the existing facility being replaced and

(ii) The rated capacity in tons per hour of the replacement equipment.

(2) For a screening operation:

(i) The total surface area of the top screen of the existing screening operation being replaced and

(ii) The total surface area of the top screen of the replacement screening operation.

(3) For a conveyor belt:

(i) The width of the existing belt being replaced and

(ii) The width of the replacement conveyor belt.

(4) For a storage bin:

(i) The rated capacity in megagrams or tons of the existing storage bin being replaced and

(ii) The rated capacity in megagrams or tons of replacement storage bins.

(f) The owner or operator of any affected facility shall submit written reports of the results of all performance tests conducted to demonstrate compliance with the standards set forth in §60.672 of this subpart, including

reports of opacity observations made using Method 9 to demonstrate compliance with §60.672(b), (c), and (f), and reports of observations using Method 22 to demonstrate compliance with §60.672(e).

(g) The owner or operator of any screening operation, bucket elevator, or belt conveyor that processes saturated material and is subject to §60.672(h) and subsequently processes unsaturated materials, shall submit a report of this change within 30 days following such change. This screening operation, bucket elevator, or belt conveyor is then subject to the 10 percent opacity limit in §60.672(b) and the emission test requirements of §60.11 and this subpart. Likewise a screening operation, bucket elevator, or belt conveyor that processes unsaturated material but subsequently processes saturated material shall submit a report of this change within 30 days following such change. This screening operation, bucket elevator, or belt conveyor is then subject to the no visible emission limit in §60.672(h).

(h) The subpart A requirement under §60.7(a)(2) for notification of the anticipated date of initial startup of an affected facility shall be waived for owners or operators of affected facilities regulated under this subpart.

(i) A notification of the actual date of initial startup of each affected facility shall be submitted to the Administrator.

(1) For a combination of affected facilities in a production line that begin actual initial startup on the same day, a single notification of startup may be submitted by the owner or operator to the Administrator. The notification shall be postmarked within 15 days after such date and shall include a description of each affected facility, equipment manufacturer, and serial number of the equipment, if available.

(2) For portable aggregate processing plants, the notification of the actual date of initial startup shall include both the home office and the current address or location of the portable plant.

(j) The requirements of this section remain in force until and unless the Agency, in delegating enforcement authority to a State under section 111(c) of the Act, approves reporting requirements or an alternative means of compliance surveillance adopted by such States. In that event, affected facilities within the State will be relieved of the obligation to comply with the reporting requirements of this section, provided that they comply with requirements established by the State.

SECTION D.2 FACILITY OPERATION CONDITIONS – COLD MIX ASPHALT

Facility Description [326 IAC 2-8-4(10)]:

- (a) cold-mix (stockpile mix) asphalt manufacturing operations and storage piles.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-8-4(1)]

D.2.1 Volatile Organic Compounds (VOC) [326 IAC 8-5-2][326 IAC 2-8-4][326 IAC 2-2]

- (a) Pursuant to 326 IAC 8-5-2 (Miscellaneous Operations: Asphalt Paving), the use of cutback asphalt or asphalt emulsion shall not contain more than seven percent (7%) oil distillate by volume of emulsion for any paving application except the following purposes:
- (a) Penetrating prime coating
 - (b) Stockpile storage
 - (c) Application during the months of November, December, January, February and March.
- (b) The VOC solvent used as diluent in the liquid binder used in cold mix asphalt production from the plant shall be limited such that no more than 56.62 tons of VOC emissions emitted per twelve (12) consecutive months. This shall be achieved by limiting the total VOC solvent of any one selected binder to not exceed the stated limit for that binder during the last twelve (12) months. When more than one binder is used, the formula below must be applied so that the total VOC emitted does not exceed 56.62 tons per twelve (12) consecutive month period rolled on a monthly basis.

Liquid binders used in the production of cold mix asphalt shall be defined as follows:

- (1) Cut back asphalt rapid cure, containing a maximum of 25.3% of the liquid binder by weight of VOC solvent and 95% by weight of VOC solvent evaporating.
 - (2) Cut back asphalt medium cure, containing a maximum of 28.6% of the liquid binder by weight of VOC solvent and 70% by weight of VOC solvent evaporating.
 - (3) Cut back asphalt slow cure, containing a maximum of 20% of the liquid binder by weight of VOC solvent and 25% by weight of VOC solvent evaporating.
 - (4) Emulsified asphalt with solvent, containing a maximum of 15% of liquid binder by weight of VOC solvent and 46.4% by weight of the VOC solvent in the liquid blend evaporating. The percent oil distillate in emulsified asphalt with solvent liquid, as determined by ASTM, must be 7% or less of the total emulsion by volume
 - (5) Other asphalt with solvent binder, containing a maximum 25.9% of the liquid binder of VOC solvent and 2.5% by weight of the VOC solvent evaporating
- (c) The liquid binder used in cold mix asphalt production shall be limited as follows:
- (1) Cutback asphalt rapid cure liquid binder usage shall not exceed 59.60 tons of VOC solvent per twelve (12) consecutive month period rolled on a monthly basis.

- (2) Cutback asphalt medium cure liquid binder usage shall not exceed 80.89 tons of VOC solvent per twelve (12) consecutive month period rolled on a monthly basis.
- (3) Cutback asphalt slow cure liquid binder usage shall not exceed 226.49 tons of VOC solvent per twelve (12) consecutive month period rolled on a monthly basis.
- (4) Emulsified asphalt with solvent liquid binder usage shall not exceed 122.03 tons of VOC solvent per twelve (12) consecutive month period rolled on a monthly basis.
- (5) Other asphalt with solvent liquid binder shall not exceed 2,264.93 tons of VOC solvent per twelve (12) consecutive month period rolled on a monthly basis.
- (6) The VOC solvent allotments in subpart (c)(1) through (c)(5) of this condition shall be adjusted when more than one type of binder is used per twelve (12) month consecutive period rolled on a monthly basis. In order to determine the tons of VOC emitted per each type of binder, use the following formula and divide the tons of VOC solvent used for each type of binder by the corresponding adjustment ratio listed in the table that follows.

$$\frac{\text{Tons of solvent contained in binder}}{\text{Adjustment ratio}} = \text{tons of VOC emitted}$$

Type of binder	tons VOC solvent	adjustment ratio	tons VOC emitted
cutback asphalt rapid cure		1	
cutback asphalt medium cure		1.36	
cutback asphalt slow cure		3.8	
emulsified asphalt		2.04	
other asphalt		38	

The equivalent total tons of VOC of the combined liquid binders shall be less than 56.62 tons per twelve (12) consecutive month period rolled on a monthly basis.

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-16]

D.2.2 Record Keeping Requirements

To document the compliance status with Condition D.2.1(b) and (c), the Permittee shall maintain records in accordance with (a) through (d) below. Records maintained for (a) through (d) shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC emission limits established in Condition D.2.1(b) and (c).

- (a) Calendar dates covered in the compliance determination period;
- (b) Asphalt binder usage per month since the last compliance determination period;
- (c) VOC solvent content by weight of the asphalt binder used each month; and
- (d) Amount of VOC solvent used in the production of cold mix asphalt, and the amount of VOC emitted each month.

Section C - General Record Keeping Requirements, contains the Permittee's obligations with regard to the records required by this condition.

D.2.3 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.2.1(b) and (c) shall be submitted using the reporting forms located at the end of this permit, or their equivalent, not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meet the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

SECTION E.1

FACILITY OPERATION CONDITIONS

Emissions Unit Description [326 IAC 2-6.1-5(a)(1): Gasoline Dispensing Facilities

- (i) One (1) 500 gallon gasoline storage tank, installed in 1990.

Under 40 CFR 63, Subpart CCCCCC: National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities, the gasoline fuel transfer and dispensing operation, including the 500 gallon gasoline storage tank, is considered an affected facility.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

New Source Performance Standards (NSPS) Requirements [326 IAC 2-8-4(1)]

E.1.1 National Emission Standards for Hazardous Air Pollutants (NESHAPs): Area Source Standards for Source Category: Gasoline Dispensing Facilities [40 CFR 63, Subpart CCCCCC] [326 IAC 20]

Pursuant to 40 CFR § 63.11112(a), the emission sources to which this subpart applies are gasoline storage tanks and associated equipment components in vapor or liquid gasoline service at new, reconstructed, or existing gasoline dispensing facilities (GDF), located at an area source. The affected source includes each gasoline cargo tank during the delivery of product to a GDF and also includes each storage tank. Pressure/Vacuum vents on gasoline storage tanks and the equipment necessary to unload product from cargo tanks into the storage tanks at GDF are covered emission sources. The equipment used for the refueling of motor vehicles is not covered by this subpart.

The gasoline fuel transfer and dispensing operation is therefore subject to the following portions of Subpart CCCCCC (6C):

- (1) § 63.11504(a)(1)(iii), (a)(2), (a)(3);
- (2) § 63.11505(a)(1), (b), (e);
- (3) § 63.11506(a);
- (4) § 63.11507(g);
- (5) § 63.11508(a), (b), (d)(1), (d)(2), (d)(8)
- (6) § 63.11509(a), (b), (c)(6), (c)(7), (d), (e), (f)
- (7) § 63.11510
- (8) § 63.11511
- (9) § 63.11512

Non-applicable portions of the NESHAP are not included in the permit.

The requirements of 40 CFR 63 Subpart A – General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the facility described in this section except when otherwise specified in 40 CFR 63, Subpart 6C.

A copy of the rule has been supplied as Attachment B to the Permit.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH**

**FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
CERTIFICATION**

Source Name: J.H. Rudolph & Company, Inc.
Source Address: 3300 S. Green River Road, Evansville, Indiana 47715
Mailing Address: PO Box 5226, Evansville, IN 47716
FESOP Permit No.: F163-23182-00186 (formerly plant ID 163-03408)

This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this permit.

Please check what document is being certified:

- Annual Compliance Certification Letter
- Test Result (specify)_____
- Report (specify)_____
- Notification (specify)_____
- Affidavit (specify)_____
- Other (specify)_____

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Date:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
Phone: (317) 233-0178
Fax: (317) 233-6865**

**FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
EMERGENCY OCCURRENCE REPORT**

Source Name: J.H. Rudolph & Company, Inc.
Source Address: 3300 S. Green River Road, Evansville, Indiana 47715
Mailing Address: PO Box 5226, Evansville, IN 47716
FESOP Permit No.: F163-23182-00186 (formerly plant ID 163-03408)

This form consists of 2 pages

Page 1 of 2

- | |
|--|
| <p><input type="checkbox"/> This is an emergency as defined in 326 IAC 2-7-1(12)</p> <ul style="list-style-type: none">• The Permittee must notify the Office of Air Quality (OAQ), within four (4) business hours (1-800-451-6027 or 317-233-0178, ask for Compliance Section); and• The Permittee must submit notice in writing or by facsimile within two (2) working days (Facsimile Number: 317-233-6865), and follow the other requirements of 326 IAC 2-7-16 |
|--|

If any of the following are not applicable, mark N/A

Facility/Equipment/Operation:
Control Equipment:
Permit Condition or Operation Limitation in Permit:
Description of the Emergency:
Describe the cause of the Emergency:

If any of the following are not applicable, mark N/A

Page 2 of 2

Date/Time Emergency started:
Date/Time Emergency was corrected:
Was the facility being properly operated at the time of the emergency? Y N Describe:
Type of Pollutants Emitted: TSP, PM-10, SO ₂ , VOC, NO _x , CO, Pb, other:
Estimated amount of pollutant(s) emitted during emergency:
Describe the steps taken to mitigate the problem:
Describe the corrective actions/response steps taken:
Describe the measures taken to minimize emissions:
If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value:

Form Completed by: _____

Title / Position: _____

Date: _____

Phone: _____

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH**

FESOP Quarterly Report

Source Name: J.H. Rudolph & Company, Inc.
Source Address: 3300 S. Green River Road, Evansville, IN 47715
Mailing Address: P.O. Box 5226, Evansville, IN 47716
FESOP No.: F163-23182-00186 (formerly plant ID 163-03408)
Facility: 650 ton/hr aggregate mixer
Parameter: Steel Slag Usage
Limit: Maximum steel slag usage shall not exceed 100,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

QUARTER: _____ MONTH: _____ YEAR: _____

Month	Column 1 Steel Slag Usage (tons)	Column 2 Steel Slag Usage (tons)	Column 1 + Column 2 Steel Slag Usage (tons)
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

- No deviation occurred in this quarter.
- Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH**

FESOP Quarterly Report

Source Name: J.H. Rudolph & Company Inc.
Source Address: 3300 S. Green River Road, Evansville, IN 47715
Mailing Address: P.O. Box 5226, Evansville, IN 47716-5226
FESOP No.: F163-23182-00186 (formerly plant ID 163-03408)
Facility: 650 ton/hr aggregate mixer
Parameter: Combined Hot-Mix and Warm-Mix Asphalt Production
Limit: The annual throughput to the aggregate dryer shall be limited to 1,440,000 tons of hot-mix and warm-mix asphalt, combined, per twelve (12) consecutive month period, with compliance determined at the end of each month.

QUARTER: _____ MONTH: _____ YEAR: _____

Month	Column 1: Asphalt throughput (tons)	Column 2: Asphalt throughput (tons)	Column 1 + Column 2: Asphalt throughput (tons)
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

- No deviation occurred in this quarter.
- deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH**

FESOP Quarterly Report

Source Name: J.H. Rudolph & Company Inc.
Source Address: 3300 S. Green River Road, Evansville, IN 47715
Mailing Address: P.O. Box 5226, Evansville, IN 47716
FESOP No.: F163-23182-00186 (formerly plant ID 163-03408)
Facility: Magnetite drying operation
Parameter: Throughput
Limit: The annual throughput to the magnetite drying operation shall be limited to 75,000 tons of magnetite per twelve (12) consecutive month period, with compliance determined at the end of each month.

QUARTER: _____ MONTH: _____ YEAR: _____

Month	Column 1: Magnetite throughput (tons)	Column 2: Magnetite throughput (tons)	Column 1 + Column 2: Magnetite throughput (tons)
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

- No deviation occurred in this quarter.
- Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH**

FESOP Quarterly Report

Source Name: J.H. Rudolph & Company Inc.
Source Address: 3300 S. Green River Road, Evansville, IN 47715
Mailing Address: P.O. Box 5226, Evansville, IN 47716
FESOP No.: F163-23182-00186 (formerly plant ID 163-03408)
Facility: Aggregate Dryer
Parameter: Throughput
Limit: The annual throughput of the certified ground shingles added to the mixture process shall be limited to 200 tons of per twelve (12) consecutive month period, with compliance determined at the end of each month.

QUARTER: _____ MONTH: _____ YEAR: _____

Month	Column 1: Magnetite throughput (tons)	Column 2: Magnetite throughput (tons)	Column 1 + Column 2: Magnetite throughput (tons)
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

- No deviation occurred in this quarter.
- Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF AIR QUALITY
 COMPLIANCE AND ENFORCEMENT BRANCH**

FESOP Quarterly Report

Source Name: J.H. Rudolph & Company Inc.
 Source Address: 3300 S. Green River Road, Evansville, IN 47715
 Mailing Address: P.O. Box 5226, Evansville, IN 47716-5226
 FESOP No.: F163-23182-00186 (formerly plant ID 163-03408)
 Facility: 116 MMBtu per hour burner for the aggregate dryer
 Parameter: No. 4 fuel oil usage limit SO₂ and NO_x emissions
 Limit: The input of No. 4 fuel oil with a maximum sulfur content of 1.0% and No. 4 fuel oil equivalents to the 116 MMBtu per hour burner for the aggregate dryer shall be limited to 1,331,926 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month, where every million cubic feet (MMCF) of natural gas burned shall be equivalent to 4.0 gallons of No. 4 fuel oil, every 1,000 gallons of No. 2 distillate oil burned in the aggregate dryer burner shall be equivalent to 512.3 gallons of No. 4 fuel oil, every 1,000 gallons of waste oil (No. 4) burned in the aggregate dryer burner shall be equivalent to 686.0 gallons of No. 4 fuel oil, and every 1,000 gallons of biodiesel burned shall be equivalent to 512.3 gallons of No. 4 fuel oil. This will limit SO₂ emissions to less than 100 tons per year.

QUARTER: _____ MONTH: _____ YEAR: _____

Month	Column 1: No. 4 fuel oil usage plus equivalent of other fuels (gallons)	Column 2: No. 4 fuel oil usage plus equivalent of other fuels (gallons)	Column 1 + Column 2: No. 4 fuel oil usage plus equivalent of other fuels (gallons)
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

- No deviation occurred in this quarter.
- Deviation/s occurred in this quarter.
 Deviation has been reported on: _____

Submitted by: _____
 Title / Position: _____
 Signature: _____
 Date: _____
 Phone: _____

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH**

FESOP Quarterly Report

Source Name: J.H. Rudolph & Company Inc.
Source Address: 3300 S. Green River Road, Evansville, IN 47715
Mailing Address: P.O. Box 5226, Evansville, IN 47716-5226
FESOP No.: F163-23182-00186 (formerly plant ID 163-03408)
Facility: Cold-mix asphalt storage piles
Parameter: VOC

Limit: 56.62 tons of VOC per year twelve (12) consecutive month period rolled on a monthly basis. Therefore, any one single liquid binder solvent shall be limited as follows:

- (a) Cutback asphalt rapid cure liquid binder usage shall not exceed 59.6 tons of VOC solvent per twelve (12) consecutive month period rolled on a monthly basis.
- (b) Cutback asphalt medium cure liquid binder usage shall not exceed 80.89 tons of VOC solvent per twelve (12) consecutive month period rolled on a monthly basis.
- (c) Cutback asphalt slow cure liquid binder usage shall not exceed 226.49 tons of VOC solvent per twelve (12) consecutive month period rolled on a monthly basis.
- (d) Emulsified asphalt with solvent liquid binder usage shall not exceed 122.03 tons of VOC solvent per twelve (12) consecutive month period rolled on a monthly basis.
- (e) Other asphalt with solvent liquid binder shall not exceed 2,264.93 tons of VOC solvent per twelve (12) consecutive month period rolled on a monthly basis.

QUARTER: _____ MONTH: _____ YEAR: _____

**The following liquid binder solvent was the only liquid binder solvent used over the previous 12 month period: _____ Limit applicable: _____
(use of more than one binder requires the use of the "Multiple Liquid Binder Solvents" report form)**

Month	Column 1 Solvent input This Month (tons)	Column 2 Solvent input Previous 11 Months (tons)	Column 1 + Column 2 Solvent input 12 Month Total (tons)
Month 1			
Month 2			
Month 3			

- No deviation occurred in this quarter.
 Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF AIR QUALITY, COMPLIANCE AND ENFORCEMENT BRANCH**

Multiple Liquid Binder Solvent Quarterly Report

Source Name: J.H. Rudolph & Company, Inc.
Initial Source Address: 3300 S. Green River Road, Evansville, IN 47715
Mailing Address: P.O. Box 5226, Evansville, IN 47716-5226
FESOP No.: F163-23182-00186 (formerly plant ID 163-03408)
Facility: Cold-mix asphalt storage piles
Parameter: VOC
Limit: 56.62 tons per year twelve (12) consecutive month period rolled on a monthly basis.

QUARTER: _____ **MONTH:** _____ **YEAR:** _____

Month	Type of Liquid binder	Solvent Usage This Month (tons)	Divisor	VOC emitted This Month (tons) for each solvent	VOC emitted This Month (tons)	VOC emitted Previous 11 Months (tons)	This month + Previous 11 months =VOC emitted 12 Month Total (tons)
Month 1	Cutback asphalt rapid cure		1				
	Cutback asphalt medium cure		1.36				
	Cutback asphalt slow cure		3.8				
	Emulsified asphalt		2.04				
	other asphalt		38				
Month 2	Cutback asphalt rapid cure		1				
	Cutback asphalt medium cure		1.36				
	Cutback asphalt slow cure		3.8				
	Emulsified asphalt		2.04				
	other asphalt		38				
Month 3	Cutback asphalt rapid cure		1				
	Cutback asphalt medium cure		1.36				
	Cutback asphalt slow cure		3.8				
	Emulsified asphalt		2.04				
	other asphalt		38				

No deviation occurred in this reporting period. Submitted by: _____ Date: _____

Deviation/s occurred in this reporting period. Title / Position: _____ Phone: _____

Deviation has been reported on: _____ Signature: _____

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT**

Source Name: J.H. Rudolph & Company, Inc.
Source Address: 3300 S. Green River Road, Evansville, Indiana 47715
Mailing Address: PO Box 5226, Evansville, IN 47716
FESOP Permit No.: F163-23182-00186 (formerly plant ID 163-03408)

Months: _____ to _____ Year: _____

Page 1 of 2

This report shall be submitted quarterly based on a calendar year. Any deviation from the requirements of this permit, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. A deviation required to be reported pursuant to an applicable requirement that exists independent of the permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked ΔNo deviations occurred this reporting period@.	
<input type="checkbox"/> NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.	
<input type="checkbox"/> THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD	
Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Form Completed by: _____

Title / Position: _____

Date: _____

Phone: _____

Mail to: Permit Administration & Development Section
Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

J.H. Rudolph & Company, Inc.
(formerly plant ID 163-03408)
3300 S. Green River Road
Evansville, Indiana 47715

Affidavit of Construction

I, _____, being duly sworn upon my oath, depose and say:
(Name of the Authorized Representative)

1. I live in _____ County, Indiana and being of sound mind and over twenty-one (21) years of age, I am competent to give this affidavit.
2. I hold the position of _____ for _____.
(Title) (Company Name)
3. By virtue of my position with _____, I have personal
(Company Name)
knowledge of the representations contained in this affidavit and am authorized to make these representations on behalf of _____.
(Company Name)
4. I hereby certify that J. H. Rudolph & Company, located at 3300 S. Green River Rd, Evansville IN 47715, completed construction of the cold-mix (stockpile mix) asphalt manufacturing operations and storage piles on in conformity with the requirements and intent of the Federally Enforceable Source Operating Permit application received by the Office of Air Quality on June 5, 2006 and as permitted pursuant to the FESOP Permit No. 163-23182-00186, Plant ID No. 163-00186, issued on _____.

Further Affiant said not.

I affirm under penalties of perjury that the representations contained in this affidavit are true, to the best of my information and belief.

Signature

Date

STATE OF INDIANA)
)SS

COUNTY OF _____)

Subscribed and sworn to me, a notary public in and for _____ County and State of
Indiana on this _____ day of _____, 20 _____.

My Commission expires: _____.

Signature

Name (typed or printed)

Appendix A: Emissions Calculations
Unlimited Emission Summary

Company Name: J.H. Rudolph & Company, Inc.
Source Address: 3300 South Green River Road, Evansville, IN 47715
Operation Permit No.: F163-23182-00186 (formerly plant ID 163-03408)
Administrative Amendment No.: 163-30567-00186
Reviewer: Renee Traivaranon
Date: July 19, 2011

Asphalt Plant Maximum Capacity

Maximum Hourly Asphalt Production =	650	ton/hr									
Maximum Annual Asphalt Production =	5,694,000	ton/yr									
Maximum Annual Magnetite Usage =	75,000	ton/yr									
Maximum Annual Slag Usage =	3,701,100	ton/yr	0.66	% sulfur							
Maximum Shingle Handling Throughput =	68,400	ton/yr									
Maximum Annual Magnetite Drying Throughput =	25	ton/yr									
Maximum Annual RAP Crushing Throughput =	657	ton/yr									
Maximum Dryer Fuel Input Rate =	116.0	MMBtu/hr									
Natural Gas Usage =	1,016	MMCF/yr									
No. 2 Fuel Oil Usage =	7,310,504	gal/yr, and	0.49	% sulfur							
No. 4 Fuel Oil Usage =	7,364,012	gal/yr, and	1.00	% sulfur							
Re-refined Waste Oil Usage =	7,258,286	gal/yr, and	0.70	% sulfur	0.50	% ash	0.100	% chlorine,	0.003	% lead	
Biodiesel Usage =	7,258,286	gal/yr, and	0.50	% sulfur							
Unlimited PM Dryer/Mixer Emission Factor =	28.0	lb/ton of asphalt production									
Unlimited PM10 Dryer/Mixer Emission Factor =	6.5	lb/ton of asphalt production									
Unlimited PM2.5 Dryer/Mixer Emission Factor =	1.5	lb/ton of asphalt production									
Unlimited VOC Dryer/Mixer Emission Factor =	0.032	lb/ton of asphalt production									
Unlimited CO Dryer/Mixer Emission Factor =	0.13	lb/ton of asphalt production									
Unlimited Slag SO2 Dryer/Mixer Emission Factor =	0.0014	lb/ton of slag processed									

Unlimited/Uncontrolled Emissions

Process Description	Unlimited/Uncontrolled Potential to Emit (tons/year)									
	Criteria Pollutants								Hazardous Air Pollutants	
	PM	PM10	PM2.5	SO2	NOx	VOC	CO	CO2e	Total HAPs	Worst Case HAP
Ducted Emissions										
Dryer Fuel Combustion (worst case)	116.13	92.54	92.54	552.26	173.04	3.63	42.68	89228.30	25.44	23.95 (hydrogen chloride)
Dryer/Mixer (Process)	79,716.00	18,505.50	4,270.50	165.13	156.59	91.10	370.11	94668.44	25.04	8.83 (formaldehyde)
Dryer/Mixer Magnetite Processing	738.64	449.94	449.94	NA	NA	NA	NA	NA	NA	NA
Dryer/Mixer Slag Processing	0	0	0	2.59	0	0	0	0	0	0
Hot Oil Heater Fuel Combustion (worst case)	0.02	0.07	0.07	0.01	0.92	0.05	0.77	1484.90	0.02	0.017 (hexane)
Total* / Worst Case** Process Emissions	80,570.79	19,048.06	4,813.06	719.99	173.96	91.15	370.88	94668.44	50.50	23.95 (hydrogen chloride)
Fugitive Emissions										
Asphalt Load-Out, Silo Filling, On-Site Yard	3.15	3.15	3.15	0	0	45.82	7.20	0	1.08	0.24 (formaldehyde)
Material Storage Piles	0.46	0.16	0.16	0	0	0	0	0	0	0
Material Conveying and Handling	31.47	14.89	14.89	0	0	0	0	0	0	0
Material Crushing (RAP)	3.55	1.58	1.58	0	0	0	0	0	0	0
Shingles processing, storage, handling	1.70	0.40	0.06	0	0	0	0	0	0	0
Paved Roads	207.61	40.51	40.51	0	0	0	0	0	0	0
Cold Mix Asphalt Production	0	0	0	0	0	13,685.53	0	0	NA	NA
Gasoline Fuel Transfer and Dispensing	0	0	0	0	0	0.02	0	0	0.01	2.04E-03 (xylenes)
Volatile Organic Liquid Storage Vessels	0	0	0	0	0	negl	0	0	negl	0
Total Fugitive Emissions	247.95	60.69	60.35	0	0	13,731.37	7.20	0	1.09	0.24 (formaldehyde)
Totals Unlimited/Uncontrolled PTE	80,818.74	19,108.74	4,873.41	719.99	173.96	13,822.52	378.08	94,668.44	51.58	23.95 (formaldehyde)

NA = not previously accounted for
negl = negligible

The existing data contained in this table are based upon FESOP No. F163-23182-00186 (formerly plant ID 163-03408) and modified in SPR 163-27958-00186, issued on September 16, 2009 and AA No. 163-29055-00186, issued on May 7, 2010.

*Total Emissions (specific to PM/PM10/PM2.5 & SO2) (tons/yr) = Dryer Fuel Combustion + Dryer/Mixer Process Emissions + Dryer/Mixer Slag Processing + Worst Case Emissions from Hot Oil Heater Fuel Combustion

**Worst Case Emissions (specific to Nox, VOC & CO) (tons/yr) = Worst Case Emissions from Dryer Fuel Combustion and Dryer/Mixer + Dryer/Mixer Slag Processing + Worst Case Emissions from Hot Oil Heater Fuel Combustion

Worst Case Fuel Combustion is based on the fuel with the highest emissions for each specific pollutant.

Fuel component percentages provided by the source.

Appendix A.1: Unlimited Emissions Calculations
Material Processing, Handling, Crushing, Screening, and Conveying

Company Name: J.H. Rudolph & Company, Inc.
 Source Address: 3300 South Green River Road, Evansville, IN 47715
 Operation Permit No.: F163-23182-00186 (formerly plant ID 163-03408)
 Administrative Amendment No.: 163-30567-00186
 Reviewer: Renee Traivaranon
 Date: June 29, 2010

Batch or Continuous Drop Operations (AP-42 Section 13.2.4)

To estimate potential fugitive dust emissions from processing and handling of raw materials (batch or continuous drop operations), AP-42 emission factors for Aggregate Handling, Section 13.2.4 (fifth edition, 1/95) are utilized.

$$E_f = k \cdot (0.0032)^k \cdot [(U/5)^{1.3} / (M/2)^{1.4}]$$

where: E_f = Emission factor (lb/ton)

- k (PM) = 0.74 = particle size multiplier (0.74 assumed for aerodynamic diameter ≤ 100 μ m)
- k (PM10) = 0.35 = particle size multiplier (0.35 assumed for aerodynamic diameter ≤ 10 μ m)
- k (PM2.5) = 0.053 = particle size multiplier (0.053 assumed for aerodynamic diameter ≤ 2.5 μ m)
- U = 10.2 = worst case annual mean wind speed (Source: NOAA, 2006*)
- M = 4.0 = material % moisture content of aggregate (Source: AP-42 Section 11.1.1.1)
- E_f (PM) = 2.27E-03 lb PM/ton of material handled
- E_f (PM10) = 1.07E-03 lb PM10/ton of material handled
- E_f (PM2.5) = 1.62E-04 lb PM2.5/ton of material handled

- Limited Annual Asphalt Production = 1,440,000 tons/yr
- Percent Asphalt Cement/Binder (weight %) = 5.0%
- Maximum Material Handling Throughput = 1,368,000 tons/yr
- Percent Shingles in Aggregate Blend = 5.0%
- Maximum Shingle Handling Throughput = 68,400 tons/yr

Type of Activity	Unlimited/Uncontrolled PTE of PM (tons/yr)	Unlimited/Uncontrolled PTE of PM10 (tons/yr)	Unlimited/Uncontrolled PTE of PM2.5 (tons/yr)
Truck unloading of materials into storage piles	0.08	0.04	0.01
Front-end loader dumping of materials into feeder bins	0.08	0.04	0.01
Conveyor dropping material into dryer/mixer or batch tower	0.08	0.04	0.01
Total (tons/yr)	0.23	0.11	0.02

Methodology

The percent asphalt shingles provided by the source.

Maximum Material Handling Throughput (tons/yr) = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]

Unlimited Potential to Emit (tons/yr) = (Maximum Material Handling Throughput (tons/yr)) * (Emission Factor (lb/ton)) * (ton/2000 lbs)

Raw materials may include limestone, sand, recycled asphalt pavement (RAP), recycled asphalt shingles (RAS), gravel, slag, and other additives

*Worst case annual mean wind speed (Indianapolis, IN) from "Comparative Climatic Data", National Climatic Data Center, NOAA, 2006

**Assumes PM10 = PM2.5

Abbreviations

- PM = Particulate Matter
- PM10 = Particulate Matter (<10 μ m)
- PM2.5 = Particulate matter (< 2.5 μ m)
- PTE = Potential to Emit

**Appendix A.1: Unlimited Emissions Calculations
Material Storage Piles**

Company Name: J.H. Rudolph & Company, Inc.
Source Address: 3300 South Green River Road, Evansville, IN 47715
Operation Permit No.: F163-23182-00186 (formerly plant ID 163-03408)
Administrative Amendment No.: 163-30567-00186
Reviewer: Renee Traivaranon
Date: June 29, 2010

The following calculations determine the amount of emissions created by wind erosion of storage stockpiles, based on 8,760 hours of use and USEPA's AP-42 (Pre 1983 Edition), Section 11.2.3.

$E_f = 1.7 \cdot (s/1.5) \cdot (365-p) / 235 \cdot (f/15)$ <p>where E_f = emission factor (lb/acre/day)</p> <p>s = silt content (wt %)</p> <p>p = 125 days of rain greater than or equal to 0.01 inches</p> <p>f = 15% of wind greater than or equal to 12 mph</p>
--

Material	Silt Content (wt %)*	Emission Factor (lb/acre/day)	Maximum Anticipated Pile Size (acres)**	PTE of PM (tons/yr)	PTE of PM10/PM2.5 (tons/yr)
Ground Shingles	0.5	0.58	0.10	0.011	0.004
Totals				0.011	0.004

Methodology

PTE of PM (tons/yr) = (Emission Factor (lb/acre/day)) * (Maximum Pile Size (acres)) * (ton/2000 lbs) * (8760 hours/yr)

PTE of PM10/PM2.5 (tons/yr) = (Potential PM Emissions (tons/yr)) * 35%

*Silt content values obtained from AP-42 Table 13.2.4-1 (dated 1/95)

**Maximum anticipated pile size (acres) provided by the source.

Abbreviations

PM = Particulate Matter

PM10 = Particulate Matter (<10 um)

PM2.5 = Particulate Matter (<2.5 um)

PM2.5 = PM10

PTE = Potential to Emit

**Appendix A.1: Unlimited Emissions Calculations
Greenhouse Gas (CO2e) Emissions from the
Dryer/Mixer Fuel Combustion with Maximum Capacity ≥ 100 MMBtu/hr**

Company Name: J.H. Rudolph & Company, Inc.
Source Address: 3300 South Green River Road, Evansville, IN 47715
Operation Permit No.: F163-23182-00186 (formerly plant ID 163-03408)
Administrative Amendment No.: 163-30567-00186
Reviewer: Renee Traivaranon
Date: July 19, 2011

The following calculations determine the unlimited/uncontrolled emissions created from the combustion of natural gas, fuel oil, propane, butane, or used/waste oil in the dryer/mixer at the source.

Maximum Capacity

Maximum Hourly Asphalt Production =	650	ton/hr								
Maximum Annual Asphalt Production =	5,694,000	ton/yr								
Maximum Fuel Input Rate =	116	MMBtu/hr								
Natural Gas Usage =	1,016	MMCF/yr								
No. 2 Fuel Oil Usage =	7,310,504	gal/yr, and	0.49	% sulfur						
No. 4 Fuel Oil Usage =	7,364,012	gal/yr, and	1.00	% sulfur						
Refinery Blendwaste oil Fuel Oil Usage =	7,258,286	gal/yr, and	0.70	% sulfur						
Propane Usage =	0	gal/yr, and	0.20	gr/100 ft3 sulfur						
Butane Usage =	0	gal/yr, and	0.22	gr/100 ft3 sulfur						
Biodiesel Usage =	7,258,286	gal/yr, and	0.50	% sulfur	0.50	% ash	0.100	% chlorine,	0.003	% lead

Unlimited/Uncontrolled Emissions

CO2e Fraction	Emission Factor (units)							Greenhouse Warming Potentials (GWP)		
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil (lb/kgal)	Refinery Blendwaste Oil Fuel Oil (lb/kgal)	Propane (lb/kgal)	Butane (lb/kgal)	Used/Waste Oil (lb/kgal)	Name	Chemical Formula	Global warming potential
CO2	120,161.84	22,501.41	24,153.46	22,024.15	12,500.00	14,506.73	22,501.41	Carbon dioxide	CO ₂	1
CH4	2.49	0.91	0.97	0.89	0.60	0.67	0.91	Methane	CH ₄	21
N2O	2.2	0.26	0.19	0.18	0.9	0.9	0.26	Nitrous oxide	N ₂ O	310

CO2e Fraction	Unlimited/Uncontrolled Potential to Emit (tons/yr)						
	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 Fuel Oil (tons/yr)	Residual (No. 5 or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	Used/ Waste Oil (tons/yr)
CO2	61,042.22	82,248.32	88,933.20	79,928.80	0.00	0.00	81,660.83
CH4	1.27	3.34	3.56	3.24	0.00	0.00	3.31
N2O	1.12	0.95	0.71	0.65	0.00	0.00	0.94
Total	61,044.60	82,252.61	88,937.47	79,932.70	0.00	0.00	81,665.09
CO2e Equivalent Emissions (tons/yr)	61,415.27	82,613.01	89,228.30	80,199.36	0.00	0.00	82,022.91

CO2e for Worst Case Fuel* (tons/yr)
89,228.30

Methodology

Fuel Usage from TSD Appendix A.1, page 1 of 14.

Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 MMCF/1,000 MMBtu]

Fuel Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.140 MMBtu]

Propane Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.0915 MMBtu]

Butane Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.102 MMBtu]

Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

Sources of Emission Factors for fuel combustion: (Note: To form a conservative estimate, the "worst case" emission factors have been used.)

Natural Gas: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/MMCF. Emission Factor for N2O from AP-42 Chapter 1.4 (dated 7/98), Table 1.4-2

No. 2 Fuel Oil: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N2O from AP-42 Chapter 1.3 (dated 9/98), Table 1.3-8

No.4 Fuel Oil: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N2O from AP-42 Chapter 1.3 (dated 9/98), Table 1.3-8

Residual (No. 5 or No. 6) Fuel Oil: Emission Factor for CO2 from 40 CFR Part 98 Subpart C, Table C-1, has been converted from kg/mmBtu to lb/kgal. Emission Factors for CH4 and N2O from AP-42 Chapter 1.3 (dated 9/98), Table 1.3-8

Propane: Emission Factor for CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, has been converted from kg/mmBtu to lb/kgal. Emission Factors for CO2 and N2O from AP-42 Chapter 1.5 (dated 7/08), Table 1.5-1

Butane: Emission Factors for CO2 and CH4 from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N2O from AP-42 Chapter 1.5 (dated 7/08), Table 1.5-1

Waste Oil: Emission Factors for CO2, CH4, and N2O from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal.

Emission Factor (EF) Conversions

Natural Gas: EF (lb/MMCF) = [EF (kg/MMBtu)] * Conversion Factor (2.20462 lbs/kg) * Heating Value of Natural Gas (MMBtu/scf) * Conversion Factor (1,000,000 scf/MMCF)]

Fuel Oil: EF (lb/kgal) = [EF (kg/MMBtu)] * Conversion Factor (2.20462 lbs/kg) * Heating Value of the Fuel Oil (MMBtu/gal) * Conversion Factor (1000 gal/MMCF)]

Natural Gas: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Natural Gas Usage (MMCF/yr)] * [Emission Factor (lb/MMCF)] * [ton/2000 lbs]

All Other Fuels: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Fuel Usage (gals/yr)] * [Emission Factor (lb/kgal)] * [kgal/1000 gal] * [ton/2000 lbs]

Unlimited Potential to Emit CO2e (tons/yr) = Unlimited Potential to Emit CO2 of "worst case" fuel (ton/yr) x CO2 GWP (1) + Unlimited Potential to Emit CH4 of "worst case" fuel (ton/yr) x CH4 GWP (21) + Unlimited Potential to Emit N2O of "worst case" fuel (ton/yr) x N2O GWP (310).

Abbreviations

PTE = Potential to Emit

CO2 = Carbon Dioxide

CH4 = Methane

N2O = Nitrogen Dioxide

**Appendix A.1: Unlimited Emissions Calculations
Paved Roads**

Company Name: J.H. Rudolph & Company, Inc.
 Source Address: 3300 South Green River Road, Evansville, IN 47715
 Operation Permit No.: F163-23182-00186 (formerly plant ID 163-03408)
 Administrative Amendment No.: 163-30567-00186
 Reviewer: Renee Traivaranon
 Date: July 19, 2011

Paved Roads at Industrial Site

The following calculations determine the amount of emissions created by paved roads, based on 8,760 hours of use and AP-42, Ch 13.2.1 (12/2003).

Limited Annual Asphalt Production =	1,440,000	tons/yr
Percent Asphalt Cement/Binder (weight %) =	5.0%	
Maximum Material Handling Throughput =	1,368,000	tons/yr
Percent Shingles in Aggregate Blend =	5.0%	
Maximum Shingle Handling Throughput =	68,400	tons/yr

Process	Vehicle Type	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons)	Maximum Weight of Vehicle and Load (tons/trip)	Maximum trips per year (trip/yr)	Total Weight driven per day (ton/yr)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/yr)
Shingle Truck Enter Full	Dump truck (16 CY)	17.0	22.4	39.40	3.1E+03	1.2E+05	739	0.140	427.4
Shingle Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.00	3.1E+03	5.2E+04	739	0.140	427.4
Shingle Loader Full	Front-end loader (3 CY)	15.0	4.2	19.20	1.6E+04	3.1E+05	739	0.140	2279.4
Shingle Loader Empty	Front-end loader (3 CY)	15.0	0	15.00	1.6E+04	2.4E+05	739	0.140	2279.4
Total					3.9E+04	7.3E+05			5.4E+03

Average Vehicle Weight Per Trip =	18.9	tons/trip
Average Miles Per Trip =	0.140	miles/trip

Unmitigated Emission Factor, $E_f = [k * (sL/2)^{0.65} * (W/3)^{1.5} - C]$ (Equation 1 from AP-42 13.2.1)

	PM	PM10	PM2.5	
where k =	0.082	0.016	0.0024	lb/mi = particle size multiplier (AP-42 Table 13.2.1-1)
W =	18.9	18.9	18.9	tons = average vehicle weight (provided by source)
C =	0.00047	0.00047	0.00036	lb/mi = emission factor for vehicle exhaust, brake wear, and tire wear (AP-42 Table 13.2.1-2)
sL =	0.6	0.6	0.6	g/m ² = Ubiquitous Baseline Silt Loading Values of paved roads (Table 13.2.1-3 for summer)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, $E_{ext} = E_f [1 - (p/4N)]$

Mitigated Emission Factor, $E_{ext} = E_f [1 - (p/4N)]$	
where p =	125 days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)
N =	365 days per year

	PM	PM10	PM2.5	
Unmitigated Emission Factor, $E_f =$	0.59	0.11	0.02	lb/mile
Mitigated Emission Factor, $E_{ext} =$	0.54	0.10	0.02	lb/mile
Dust Control Efficiency =	50%	50%	50%	(pursuant to control measures outlined in fugitive dust control plan)

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Shingle Truck Enter Full	Dump truck (16 CY)	0.13	0.02	0.00	0.12	0.02	0.00	0.06	0.01	0.00
Shingle Truck Leave Empty	Dump truck (16 CY)	0.13	0.02	0.00	0.12	0.02	0.00	0.06	0.01	0.00
Shingle Loader Full	Front-end loader (3 CY)	0.67	0.13	0.02	0.62	0.12	0.02	0.31	0.06	0.01
Shingle Loader Empty	Front-end loader (3 CY)	0.67	0.13	0.02	0.62	0.12	0.02	0.31	0.06	0.01
Totals		1.60	0.31	0.05	1.46	0.28	0.04	0.73	0.14	0.02

Methodology

Maximum Material Handling Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]
 Maximum Asphalt Cement/Binder Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [Percent Asphalt Cement/Binder (weight %)]
 Maximum Weight of Vehicle and Load (tons/trip) = [Maximum Weight of Vehicle (tons/trip)] + [Maximum Weight of Load (tons/trip)]
 Maximum trips per year (trip/yr) = [Throughput (tons/yr)] / [Maximum Weight of Load (tons/trip)]
 Total Weight driven per year (ton/yr) = [Maximum Weight of Vehicle and Load (tons/trip)] * [Maximum trips per year (trip/yr)]
 Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip)] / [5280 ft/mile]
 Maximum one-way miles (miles/yr) = [Maximum trips per year (trip/yr)] * [Maximum one-way distance (mi/trip)]
 Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per year (ton/yr)] / SUM[Maximum trips per year (trip/yr)]
 Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/yr)] / SUM[Maximum trips per year (trip/yr)]
 Unmitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Unmitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
 Mitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Mitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
 Controlled PTE (tons/yr) = (Mitigated PTE (tons/yr)) * (1 - Dust Control Efficiency)

Abbreviations

PM = Particulate Matter
 PM10 = Particulate Matter (<10 um)
 PM2.5 = Particulate Matter (<2.5 um)
 PM2.5 = PM10
 PTE = Potential to Emit

**Appendix A.1: Unlimited Emissions Calculations
Greenhouse Gas (CO2e) Emissions from the
Drum-Mix Plant (Dryer/Mixer) Process Emissions**

Company Name: J.H. Rudolph & Company, Inc.
Source Address: 3300 South Green River Road, Evansville, IN 47715
Operation Permit No.: F163-23182-00186 (formerly plant ID 163-03408)
Administrative Amendment No.: 163-30567-00186
Reviewer: Renee Traivaranon
Date: July 19, 2011

The following calculations determine the unlimited/uncontrolled emissions from the aggregate drying/mixing

Maximum Hourly Asphalt Production = 650 ton/hr
Maximum Annual Asphalt Production = 5,694,000 ton/yr

Criteria Pollutant	Emission Factor (lb/ton) Drum-Mix Plant (dryer/mixer)			Greenhouse Gas Global Warming Potentials (GWP)	Unlimited/Uncontrolled Potential to Emit (tons/yr) Drum-Mix Plant (dryer/mixer)			CO2e for Worst Case Fuel (tons/yr)
	Natural Gas	No. 2 Fuel Oil	Waste Oil		Natural Gas	No. 2 Fuel Oil	Waste Oil	
CO2	33	33	33	1	93,951.00	93,951.00	93,951.00	94,668.44
CH4	0.0120	0.0120	0.0120	21	34.16	34.16	34.16	
N2O				310	0	0	0	
Total					93,985.16	93,985.16	93,985.16	
CO2e Equivalent Emissions (tons/yr)					94,668.44	94,668.44	94,668.44	

Methodology

Natural gas, No. 2 fuel oil, and waste oil represent the worst possible emissions scenario. AP-42 did not provide emission factors for any other fuels.

Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-7 and 11.1-8

There are no emission factors for N2O available in either the 40 CFR 98, Subpart C or AP-42 Chapter 11.1. Therefore, it is assumed that there are no N2O emission anticipated from this process.

Unlimited/Uncontrolled Potential to Emit (tons/yr) = (Maximum Annual Asphalt Production (tons/yr)) * (Emission Factor (lb/ton)) * (ton/2000 lbs)

Unlimited Potential to Emit CO2e (tons/yr) = Unlimited Potential to Emit CO2 of "worst case" fuel (ton/yr) x CO2 GWP (1) + Unlimited Potential to Emit CH4 of "worst case" fuel (ton/yr) x CH4 GWP (21) + Unlimited Potential to Emit N2O of "worst case" fuel (ton/yr) x N2O GWP (310).

Abbreviations

CO2 = Carbon Dioxide

CH4 = Methane

N2O = Nitrogen Dioxide

PTE = Potential to Emit

**Appendix A.1: Unlimited Emissions Calculations
Greenhouse Gas (CO₂e) Emissions from
Hot Oil Heater Fuel Combustion with Maximum Capacity < 100 MMBtu/hr**

Company Name: J.H. Rudolph & Company, Inc.
 Source Address: 3300 South Green River Road, Evansville, IN 47715
 Operation Permit No.: F163-23182-00186 (formerly plant ID 163-03408)
 Administrative Amendment No.: 163-30567-00186
 Reviewer: Renee Traivaranon
 Date: July 19, 2011

Maximum Hot Oil Heater Fuel Input Rate = 2.10 MMBtu/hr
 Natural Gas Usage = 18.40 MMCF/yr
 No. 2 Fuel Oil Usage = 131,400.00 gal/yr, 0.50 % sulfur

Unlimited/Uncontrolled Emissions

Criteria Pollutant	Emission Factor (units)		Greenhouse Global Warming Potentials (GWP)	Potential to Emit (tons/yr)	
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)		Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)
CO ₂	120,161.84	22,501.41	1	1,105.25	1,478.34
CH ₄	2.49	0.91	21	0.02	0.06
N ₂ O	2.2	0.26	310	0.02	0.02
				1,105.29	1,478.42

Worse Case CO₂e Emissions (tons/yr)
1,484.90

CO ₂ e Equivalent Emissions (tons/yr)	1,112.00	1,484.90
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Methodology

Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

Equivalent Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 MMCF/1,000 MMBtu]

Equivalent Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.140 MMBtu]

Sources of Emission Factors for fuel combustion: (Note: To form a conservative estimate, the "worst case" emission factors have been used.)

Natural Gas: Emission Factors for CO₂ and CH₄ from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from

No. 2 Fuel Oil: Emission Factors for CO₂ and CH₄ from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from

Propane: Emission Factor for CH₄ from 40 CFR Part 98 Subpart C, Tables C-1 and 2, has been converted from kg/mmBtu to lb/kgal.

Butane: Emission Factors for CO₂ and CH₄ from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from

Emission Factor (EF) Conversions

Natural Gas: EF (lb/MMCF) = [EF (kg/MMBtu) * Conversion Factor (2.20462 lbs/kg) * Heating Value of Natural Gas

Fuel Oils: EF (lb/kgal) = [EF (kg/MMBtu) * Conversion Factor (2.20462 lbs/kg) * Heating Value of the Fuel Oil (MMBtu/gal) *

Natural Gas: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Natural Gas Usage (MMCF/yr)] * [Emission Factor (lb/MMCF)] *

All Other Fuels: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Fuel Usage (gals/yr)] * [Emission Factor (lb/kgal)] * [kgal/1000 gal]

Unlimited Potential to Emit CO₂e (tons/yr) = Unlimited Potential to Emit CO₂ of "worst case" fuel (ton/yr) x CO₂ GWP (1) + Unlimited Potential to

Abbreviations

CO₂ = Carbon Dioxide
 CH₄ = Methane

N₂O = Nitrogen Dioxide
 PTE = Potential to Emit

Appendix A: Emissions Calculations
Limited Emission Summary

Company Name: J.H. Rudolph & Company, Inc.
Source Address: 3300 South Green River Road, Evansville, IN 47715
Operation Permit No.: F163-23182-00186 (formerly plant ID 163-03408)
Administrative Amendment No.: 163-30567-00186
Reviewer: Renee Traivaranon
Date: July 18, 2010

Asphalt Plant Limitations

Maximum Hourly Asphalt Production =	650	ton/hr	99.924%	Aggregate Dryer Control Efficiency			
Annual Asphalt Production Limitation =	1,440,000	ton/yr					
Magnetite Drying Limitation =	75,000	ton/yr	99.924%	Magnetite Dryer Control Efficiency			
Slag Usage Limitation =	25,000	ton/yr	0.66%	% sulfur			
Shingle Limitation =	200	ton/yr					
Natural Gas Limitation =	1,016.16	MMCF/yr					
No. 2 Fuel Oil Limitation =	2,600,012	gal/yr, and	0.50%	% sulfur			
No. 4 Fuel Oil Limitation =	1,331,926	gal/yr, and	1.00%	% sulfur			
Used/Waste Oil Limitation =	1,941,584	gal/yr, and	0.70%	% sulfur	0.50%	0.100%	0.003%
Biodiesel Limitation =	2,600,012	gal/yr, and	0.50%	% sulfur			
PM Dryer/Mixer Limitation =	0.148	lb/ton of asphalt production					
PM10 Dryer/Mixer Limitation =	0.083	lb/ton of asphalt production					
PM2.5 Dryer/Mixer Limitation =	0.083	lb/ton of asphalt production					
VOC Dryer/Mixer Limitation =	0.032	lb/ton of asphalt production					
CO Dryer/Mixer Limitation =	0.130	lb/ton of asphalt production					
Slag SO ₂ Dryer/Mixer Limitation =	0	lb/ton of slag processed					
Magnetite PM/PM10/PM2.5 Drying Limitation =	0.04	lb/ton of magnetite processed					
Cold Mix Asphalt VOC Usage Limitation =	56.62	tons/yr					

Limited/Controlled Emissions

Process Description	Limited/Controlled Potential Emissions (tons/year)										
	Criteria Pollutants								Hazardous Air Pollutants		
	PM	PM10	PM2.5	SO ₂	NO _x	VOC	CO	CO _{2e}	Total HAPs	Worst Case HAP	
Ducted Emissions											
Dryer Fuel Combustion (worst case)	2.36E-02	1.88E-02	1.88E-02	99.89	96.54	2.79	42.68	61424.94	6.41	6.41	hydrogen chloride
Dryer/Mixer (Process)	106.73	59.50	59.50	41.76	39.60	23.04	93.60	23941.44	6.33	2.23	(formaldehyde)
Dryer/Mixer Magnetite Processing	1.50	1.50	1.50	NA	NA	NA	NA	NA	NA	NA	
Dryer/Mixer Slag Processing	0	0	0	0.07	0	0	0	0	0	0	
Hot Oil Heater Fuel Combustion (worst case)	0.02	0.07	0.07	0.01	0.92	0.05	0.77	1484.90	negl.	negl.	
Total Process Emissions	108.25	61.07	61.07	99.97	97.46	23.09	94.37	62909.84	6.41	6.41	(formaldehyde)
Fugitive Emissions											
Asphalt Load-Out, Silo Filling, On-Site Yard	1.92	1.92	1.92	0	0	19.98	4.70	0	0.42	0.06	maldehyde)(xylene)
Material Storage Piles	0.46	0.16	0.16	0	0	0	0	0	0	0	
Material Conveying and Handling	31.47	14.89	14.89	0	0	0	0	0	0	0	
Material Crushing (RAP)	3.55	1.58	1.58	0	0	0	0	0	0	0	
Shingles processing, storage, handling	0.005	0.001	0.001	0	0	0	0	0	0	0	
Paved Roads	103.81	20.25	20.25	0	0	0	0	0	0	0	
Cold Mix Asphalt Production	0	0	0	0	0	56.62	0	0	NA	NA	
Gasoline Fuel Transfer and Dispensing	0	0	0	0	0	NA	0	0	NA	NA	
Volatile Organic Liquid Storage Vessels	0	0	0	0	0	negl	0	0	negl	negl	
Total Fugitive Emissions	141.21	38.81	38.80	0	0	76.61	4.70	0	0.42	0.06	maldehyde)(xylene)
Totals Limited/Controlled Emissions	249.46	99.88	99.88	99.97	97.46	99.70	99.07	62909.84	6.83	6.41	(formaldehyde)

NA = not previously accounted for.

negl = negligible

The existing data contained in this table are based upon FESOP No. F163-23182-00186 (formerly plant ID 163-03408) and modified in SPR 163-27958-00186, issued on September 16, 2009 and AA No. 163-29055-00186, issued on May 7, 2010.

*Total Emissions (specific to PM10/PM2.5) (tons/yr) = Dryer Fuel Combustion + Dryer/Mixer Process Emissions + Dryer/Mixer Slag Processing + Worst Case Emissions from Hot Oil Heater Fuel Combustion

**Worst Case Emissions (specific to PM, SO₂, NO_x, VOC & CO) (tons/yr) = Worst Case Emissions from Dryer Fuel Combustion and Dryer/Mixer + Dryer/Mixer Slag Processing + Worst Case Emissions from Hot Oil Heater Fuel Combustion

Worst Case Fuel Combustion is based on the fuel with the highest emissions for each specific pollutant.

Fuel component percentages provided by the source.

**Appendix A.1: limited Emissions Calculations
Material Storage Piles**

Company Name: J.H. Rudolph & Company, Inc.
 Source Address: 3300 South Green River Road, Evansville, IN 47715
 Operation Permit No.: F163-23182-00186 (formerly plant ID 163-03408)
 Administrative Amendment No.: 163-30567-00186
 Reviewer: Renee Traivaranon
 Date : June 14, 2010

The following calculations determine the amount of emissions created by wind erosion of storage stockpiles, based on 8,760 hours of use and USEPA's AP-42 (Pre 1983 Edition), Section 11.2.3.

$E_f = 1.7 \cdot (s/1.5)^3 \cdot (365-p) / 235 \cdot (f/15)$ <p>where E_f = emission factor (lb/acre/day) s = silt content (wt %) p = 125 days of rain greater than or equal to 0.01 inches f = 15 % of wind greater than or equal to 12 mph</p>

Material	Silt Content (wt %)*	Emission Factor (lb/acre/day)	Maximum Anticipated Pile Size (acres)**	PTE of PM (tons/yr)	PTE of PM10/PM2.5 (tons/yr)
Ground Shingles	0.5	0.58	0.02	0.002	0.001
Totals				0.002	0.001

Methodology

PTE of PM (tons/yr) = (Emission Factor (lb/acre/day)) * (Maximum Pile Size (acres)) * (ton/2000 lbs) * (8760 hours/yr)

PTE of PM10/PM2.5 (tons/yr) = (Potential PM Emissions (tons/yr)) * 35%

*Silt content values obtained from AP-42 Table 13.2.4-1 (dated 1/95)

**Maximum anticipated pile size (acres) provided by the source.

Abbreviations

PM = Particulate Matter

PM10 = Particulate Matter (<10 um)

PM2.5 = Particulate Matter (<2.5 um)

PM2.5 = PM10

PTE = Potential to Emit

Appendix A.1: Limited Emissions Calculations
Material Processing, Handling, Crushing, Screening, and Conveying

Company Name: J.H. Rudolph & Company, Inc.
 Source Address: 3300 South Green River Road, Evansville, IN 47715
 Operation Permit No.: F163-23182-00186 (formerly plant ID 163-03408)
 Administrative Amendment No.: 163-30567-00186
 Reviewer: Renee Traivaranon
 Date: June 29, 2010

Batch or Continuous Drop Operations (AP-42 Section 13.2.4)

To estimate potential fugitive dust emissions from processing and handling of raw materials (batch or continuous drop operations), AP-42 emission factors for Aggregate Handling, Section 13.2.4 (fifth edition, 1/95) are utilized.

$$E_f = k(0.0032)^M \left[\frac{U}{5} \right]^{1.3} / (M/2)^{1.4}$$

where: E_f = Emission factor (lb/ton)

k (PM)	= 0.74	= particle size multiplier (0.74 assumed for aerodynamic diameter <=100 um)
k (PM10)	= 0.35	= particle size multiplier (0.35 assumed for aerodynamic diameter <=10 um)
k (PM2.5)	= 0.053	= particle size multiplier (0.053 assumed for aerodynamic diameter <=2.5 um)
U	= 10.2	= worst case annual mean wind speed (Source: NOAA, 2006*)
M	= 4.0	= material % moisture content of aggregate (Source: AP-42 Section 11.1.1.1)
E_f (PM)	= 2.27E-03	lb PM/ton of material handled
E_f (PM10)	= 1.07E-03	lb PM10/ton of material handled
E_f (PM2.5)	= 1.62E-04	lb PM2.5/ton of material handled

Limited Annual Asphalt Production	= 1,440,000	tons/yr
Percent Asphalt Cement/Binder (weight %)	= 5.0%	
Maximum Material Handling Throughput	= 1,368,000	tons/yr
Percent Shingles in Aggregate Blend	= 5.0%	
Maximum Shingle Handling Throughput	= 68,400	tons/yr
Maximum Shingle Handling Limitation	= 200	tons/yr

Type of Activity	Unlimited/Uncontrolled PTE of PM (tons/yr)	Unlimited/Uncontrolled PTE of PM10 (tons/yr)	Unlimited/Uncontrolled PTE of PM2.5 (tons/yr)
Truck unloading of materials into storage piles	2.3E-04	1.1E-04	1.6E-05
Front-end loader dumping of materials into feeder bins	2.3E-04	1.1E-04	1.6E-05
Conveyor dropping material into dryer/mixer or batch t	2.3E-04	1.1E-04	1.6E-05
Total (tons/yr)	6.8E-04	3.2E-04	4.9E-05

Methodology

The percent asphalt cement/binder provided by the source.
 Maximum Material Handling Throughput (tons/yr) = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]
 Unlimited Potential to Emit (tons/yr) = (Maximum Material Handling Throughput (tons/yr)) * (Emission Factor (lb/ton)) * (ton/2000 lbs)
 *Worst case annual mean wind speed (Indianapolis, IN) from "Comparative Climatic Data", National Climatic Data Center, NOAA, 2006

Abbreviations

PM = Particulate Matter
 PM10 = Particulate Matter (<10 um)
 PM2.5 = Particulate matter (< 2.5 um)
 PTE = Potential to Emit

Appendix A.1: Unlimited Emissions Calculations
Paved Roads

Company Name: J.H. Rudolph & Company, Inc.
Source Address: 3300 South Green River Road, Evansville, IN 47715
Operation Permit No.: F163-23182-00186 (formerly plant ID 163-03408)
Administrative Amendment No.: 163-30567-00186
Reviewer: Renee Traivaranon
Date: June 29, 2010

Paved Roads at Industrial Site

The following calculations determine the amount of emissions created by paved roads, based on 8,760 hours of use and AP-42, Ch 13.2.1 (12/2003).

Limited Annual Asphalt Production =	1,440,000	tons/yr
Percent Asphalt Cement/Binder (weight %)	5.0%	
Maximum Material Handling Throughput =	1,368,000	tons/yr
Percent Shingles in Aggregate Blend =	5.0%	
Maximum Shingle Handling Throughput =	68,400	tons/yr
Maximum Shingle Handling Limitation =	200	tons/yr

Process	Vehicle Type	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons)	Maximum Weight of Vehicle and Load (tons/trip)	Maximum trips per year (trip/yr)	Total Weight driven per day (ton/yr)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/yr)
Shingle Truck Enter Full	Dump truck (16 CY)	17.0	22.4	39.40	8.9E+00	3.5E+02	739	0.140	1.2
Shingle Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.00	8.9E+00	1.5E+02	739	0.140	1.2
Shingle Loader Full	Front-end loader (3 CY)	15.0	4.2	19.20	4.8E+01	9.1E+02	739	0.140	6.7
Shingle Loader Empty	Front-end loader (3 CY)	15.0	0	15.00	4.8E+01	7.1E+02	739	0.140	6.7
Total						1.1E+02	2.1E+03		1.6E+01

Average Vehicle Weight Per Trip =	18.9	tons/trip
Average Miles Per Trip =	0.140	miles/trip

Unmitigated Emission Factor, $E_f = [k * (SL/2)^{0.65} * (W/3)^{1.5} - C]$ (Equation 1 from AP-42 13.2.1)

	PM	PM10	PM2.5	
where k =	0.082	0.016	0.0024	lb/mi = particle size multiplier (AP-42 Table 13.2.1-1)
W =	18.9	18.9	18.9	tons = average vehicle weight (provided by source)
C =	0.00047	0.00047	0.00036	lb/mi = emission factor for vehicle exhaust, brake wear, and tire wear (AP-42 Table 13.2.1-2)
SL =	0.6	0.6	0.6	g/m ² = Ubiquitous Baseline Silt Loading Values of paved roads (Table 13.2.1-3 for summer months)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, $E_{ext} = E_f * [1 - (p/4N)]$

Mitigated Emission Factor, $E_{ext} = E_f * [1 - (p/4N)]$		
where p =	125	days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)
N =	365	days per year

	PM	PM10	PM2.5	
Unmitigated Emission Factor, $E_f =$	0.59	0.11	0.02	lb/mile
Mitigated Emission Factor, $E_{ext} =$	0.54	0.10	0.02	lb/mile
Dust Control Efficiency =	50%	50%	50%	(pursuant to control measures outlined in fugitive dust control plan)

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Shingle Truck Enter Full	Dump truck (16 CY)	3.7E-04	7.2E-05	1.1E-05	3.4E-04	6.6E-05	9.7E-06	1.7E-04	3.3E-05	4.8E-06
Shingle Truck Leave Empty	Dump truck (16 CY)	3.7E-04	7.2E-05	1.1E-05	3.4E-04	6.6E-05	9.7E-06	1.7E-04	3.3E-05	4.8E-06
Shingle Loader Full	Front-end loader (3 CY)	2.0E-03	3.8E-04	5.6E-05	1.8E-03	3.5E-04	5.2E-05	9.0E-04	1.7E-04	2.6E-05
Shingle Loader Empty	Front-end loader (3 CY)	2.0E-03	3.8E-04	5.6E-05	1.8E-03	3.5E-04	5.2E-05	9.0E-04	1.7E-04	2.6E-05
Totals		4.7E-03	9.1E-04	1.3E-04	4.3E-03	8.3E-04	1.2E-04	2.1E-03	4.2E-04	6.1E-05

Methodology

Maximum Material Handling Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]
 Maximum Asphalt Cement/Binder Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [Percent Asphalt Cement/Binder (weight %)]
 Maximum Weight of Vehicle and Load (tons/trip) = [Maximum Weight of Vehicle (tons/trip)] + [Maximum Weight of Load (tons/trip)]
 Maximum trips per year (trip/yr) = [Throughput (tons/yr)] / [Maximum Weight of Load (tons/trip)]
 Total Weight driven per year (ton/yr) = [Maximum Weight of Vehicle and Load (tons/trip)] * [Maximum trips per year (trip/yr)]
 Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip)] / [5280 ft/mile]
 Maximum one-way miles (miles/yr) = [Maximum trips per year (trip/yr)] * [Maximum one-way distance (mi/trip)]
 Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per year (ton/yr)] / SUM[Maximum trips per year (trip/yr)]
 Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/yr)] / SUM[Maximum trips per year (trip/yr)]
 Unmitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Unmitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
 Mitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Mitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
 Controlled PTE (tons/yr) = (Mitigated PTE (tons/yr)) * (1 - Dust Control Efficiency)

Abbreviations

PM = Particulate Matter
 PM10 = Particulate Matter (<10 um)
 PM2.5 = Particulate Matter (<2.5 um)
 PM2.5 = PM10
 PTE = Potential to Emit

**Appendix A.2: Limited Emissions Summary
Greenhouse Gas (CO₂e) Emissions from the
Dryer/Mixer Fuel Combustion with Maximum Capacity ≥ 100 MMBtu/hr**

Company Name: J.H. Rudolph & Company, Inc.
 Source Address: 3300 South Green River Road, Evansville, IN 47715
 Operation Permit No.: F163-23182-00186 (formerly plant ID 163-03408)
 Administrative Amendment No.: 163-30567-00186
 Reviewer: Renee Traivaranon
 Date: July 18, 2010

The following calculations determine the limited emissions created from the combustion of natural gas, fuel oil, propane, butane, or used/waste oil in the dryer/mixer and all other fuel combustion sources at the source.

Production and Fuel Limitations

Maximum Hourly Asphalt Production =	650	ton/hr						
Annual Asphalt Production Limitation =	1,440,000	ton/yr						
Natural Gas Limitation =	1,016	MMCF/yr						
No. 2 Fuel Oil Limitation =	2,600,012	gal/yr, and	0.50	% sulfur				
No. 4 Fuel Oil Limitation =	1,331,926	gal/yr, and	0.50	% sulfur				
Refined Waste Oil Limitation =	1,941,584	gal/yr, and	0.50	% sulfur				
Propane Limitation =	0	gal/yr, and	0.20	gr/100 ft ³ sulfur				
Butane Limitation =	0	gal/yr, and	0.22	gr/100 ft ³ sulfur				
Biodiesel Oil Limitation =	2,600,012	gal/yr, and	1.00	% sulfur	0.50	% ash	0.200	% chlorine, 0.010 % lead

Limited Emissions

CO ₂ e Fraction	Emission Factor (units)							Greenhouse Warming Potentials (GWP)		
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil (lb/kgal)	Refined Waste Fuel Oil (lb/kgal)	Propane (lb/kgal)	Butane (lb/kgal)	Biodiesel Oil (lb/kgal)	Name	Chemical Formula	Global warming potential
CO ₂	120,161.84	22,501.41	24,153.46	22,024.15	12,500.00	14,506.73	22,501.41	Carbon dioxide	CO ₂	1
CH ₄	2.49	0.91	0.97	0.89	0.60	0.67	0.91	Methane	CH ₄	21
N ₂ O	2.20	0.26	0.19	0.18	0.90	0.90	0.26	Nitrous oxide	N ₂ O	310

CO ₂ e Fraction	Limited Potential to Emit (tons/yr)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 Fuel Oil (tons/yr)	Residual (No. 5 or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	Used/Waste Oil (tons/yr)	CO ₂ e for Worst Case Fuel* (tons/yr)
CH ₄	1.27	1.19	0.64	0.87	0.00	0.00	1.19		
N ₂ O	1.12	0.34	0.13	0.17	0.00	0.00	0.34		
Total	61,054.21	29,253.49	16,086.09	21,381.91	0.00	0.00	29,253.49		

CO ₂ e Equivalent Emissions (tons/yr)	61,424.94	29,381.67	16,138.69	21,453.25	0.00	0.00	29,381.67
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Methodology

Fuel Limitations from TSD Appendix A.2, page 1 of 15.
 Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
 Sources of Emission Factors for fuel combustion: (Note: To form a conservative estimate, the "worst case" emission factors have been used.)
 Natural Gas: Emission Factors for CO₂ and CH₄ from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/MMCF. Emission Factor for N₂O from AP-42 Chapter 1.3 (dated 9/98), Table 1.3-8.
 No. 2 Fuel Oil: Emission Factors for CO₂ and CH₄ from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N₂O from AP-42 Chapter 1.3 (dated 9/98), Table 1.3-8.
 No. 4 Fuel Oil: Emission Factors for CO₂, CH₄, and N₂O from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal.
 Residual (No. 5 or No. 6) Fuel Oil: Emission Factors for CO₂ and CH₄ from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N₂O from AP-42 Chapter 1.3 (dated 9/98), Table 1.3-8.
 Propane and Butane: Emission Factors for CO₂ and CH₄ from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N₂O from AP-42 Chapter 1.5 (dated 7/08), Table 1.5-1.
 Waste Oil: Emission Factors for CO₂, CH₄, and N₂O from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal.
 Emission Factor (EF) Conversions
 Natural Gas: EF (lb/MMCF) = [EF (kg/MMBtu) * Conversion Factor (2.20462 lbs/kg) * Heating Value of Natural Gas (MMBtu/scf) * Conversion Factor (1,000,000 scf/MMCF)]
 Fuel Oils: EF (lb/kgal) = [EF (kg/MMBtu) * Conversion Factor (2.20462 lbs/kg) * Heating Value of the Fuel Oil (MMBtu/gal) * Conversion Factor (1000 gal/kgal)]
 Natural Gas: Limited Potential to Emit (tons/yr) = (Natural Gas Limitation (MMCF/yr)) * (Emission Factor (lb/MMCF)) * (ton/2000 lbs)
 All Other Fuels: Limited Potential to Emit (tons/yr) = (Fuel Limitation (gals/yr)) * (Emission Factor (lb/kgal)) * (kgal/1000 gal) * (ton/2000 lbs)
 Limited CO₂e Emissions (tons/yr) = CO₂ Potential Emission of "worst case" fuel (ton/yr) x CO₂ GWP (1) + CH₄ Potential Emission of "worst case" fuel (ton/yr) x CH₄ GWP (21) + N₂O Potential Emission of "worst case" fuel (ton/yr) x N₂O GWP (310).

Abbreviations

CH₄ = Methane CO₂ = Carbon Dioxide N₂O = Nitrogen Dioxide PTE = Potential to Emit

**Appendix A.2: Limited Emissions Summary
Greenhouse Gas (CO₂e) Emissions from the
Drum-Mix Plant (Dryer/Mixer) Process Emissions**

Company Name: J.H. Rudolph & Company, Inc.
Source Address: 3300 South Green River Road, Evansville, IN 47715
Operation Permit No.: F163-23182-00186 (formerly plant ID 163-03408)
Administrative Amendment No.: 163-30567-00186
Reviewer: Renee Traivaranon
Date: July 18, 2010

The following calculations determine the limited emissions from the aggregate drying/mixing

Maximum Hourly Asphalt Production = 650 ton/hr
Annual Asphalt Production Limitation = 1,440,000 ton/yr

Criteria Pollutant	Emission Factor (lb/ton) Drum-Mix Plant (dryer/mixer)			Greenhouse Gas Global Warming Potentials (GWP)	Limited Potential to Emit (tons/yr) Drum-Mix Plant (dryer/mixer)			CO ₂ e for Worst Case Fuel (tons/yr)
	Natural Gas	No. 2 Fuel Oil	Waste Oil		Natural Gas	No. 2 Fuel Oil	Waste Oil	
CO ₂	33	33	33	1	23,760.00	23,760.00	23,760.00	23,941.44
CH ₄	0.0120	0.0120	0.0120	21	8.64	8.64	8.64	
N ₂ O				310	0	0	0	
Total					23,768.64	23,768.64	23,768.64	
CO ₂ e Equivalent Emissions (tons/yr)					23,941.44	23,941.44	23,941.44	

Methodology

Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-7 and 11.1-8

There are no emission factors for N₂O available in either the 40 CFR 98, Subpart C or AP-42 Chapter 11.1. Therefore, it is assumed that there are no N₂O emission anticipated from this process.

Limited/Controlled Potential to Emit (tons/yr) = (Annual Asphalt Production Limitation (tons/yr)) * (Emission Factor (lb/ton)) * (ton/2000 lbs)

Natural gas, No. 2 fuel oil, and waste oil represent the worst possible emissions scenario. AP-42 did not provide emission factors for any other fuels.

Limited CO₂e Emissions (tons/yr) = CO₂ Potential Emission of "worst case" fuel (ton/yr) x CO₂ GWP (1) + CH₄ Potential Emission of "worst case" fuel (ton/yr) x CH₄ GWP (21) + N₂O Potential Emission of "worst case" fuel (ton/yr) x N₂O GWP (310).

Abbreviations

CO₂ = Carbon Dioxide CH₄ = Methane N₂O = Nitrogen Dioxide PTE = Potential to Emit



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
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SENT VIA U.S. MAIL: CONFIRMED DELIVERY AND SIGNATURE REQUESTED

TO: Alvin Evans
J H Rudolph & Company, Inc
PO Box 5226
Evansville IN 47716

DATE: July 27, 2011

FROM: Matt Stuckey, Branch Chief
Permits Branch
Office of Air Quality

SUBJECT: Final Decision
FESOP
163-30567-00186

Enclosed is the final decision and supporting materials for the air permit application referenced above. Please note that this packet contains the original, signed, permit documents.

The final decision is being sent to you because our records indicate that you are the contact person for this application. However, if you are not the appropriate person within your company to receive this document, please forward it to the correct person.

A copy of the final decision and supporting materials has also been sent via standard mail to:
Jim Heim, Bruce Carter Associates, Consultant
OAQ Permits Branch Interested Parties List

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178, or toll-free at 1-800-451-6027 (ext. 3-0178), and ask to speak to the permit reviewer who prepared the permit. If you think you have received this document in error, please contact Joanne Smiddie-Brush of my staff at 1-800-451-6027 (ext 3-0185), or via e-mail at jbrush@idem.IN.gov.

Final Applicant Cover letter.dot 11/30/07

Mail Code 61-53

IDEM Staff	DPABST 7/27/2011 J H Rudolph & Company, Inc 163-30567-00186 (Final)		Type of Mail: CERTIFICATE OF MAILING ONLY	AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
Name and address of Sender		Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204		

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1		Alvin Evans J H Rudolph & Company, Inc PO Box 5226 Evansville IN 47716 (Source CAATS) (CONFIRM DELIVERY)									
2		Evansville City Council and Mayors Office 1NW MLK Blvd, Rm 302 Evansville IN 47708 (Local Official)									
3		Vanderburgh County Commissioners 1 NW MLK Blvd, Rm 305 Evansville IN 47708 (Local Official)									
4		Mr. Charles L. Berger Berger & Berger, Attorneys at Law 313 Main Street Evansville IN 47700 (Affected Party)									
5		Mr. Wendell Hibdon Plumbers & Steam Fitters Union, Local 136 2300 St. Joe Industrial Park Dr Evansville IN 47720 (Affected Party)									
6		Mr. Don Mottley Save Our Rivers 6222 Yankeetown Hwy Boonville IN 47601 (Affected Party)									
7		Vanderburgh County Health Dept. 420 Milberry Street Evansville IN 47713-1888 (Health Department)									
8		Kim Sherman 3355 Woodview Drive Newburgh IN 47630 (Affected Party)									
9		Mr. John Blair 800 Adams Ave Evansville IN 47713 (Affected Party)									
10		Evansville EPA 100 E. Walnut St. Suite 100, Newsome Center Evansville IN 47713 (Local Official)									
11		Jim Heim Bruce Carter Associates 616 South 4th Street Elkhart IN 46516 (Consultant)									
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